Belshaw

Convection Ovens

Model BX ‘Classic’
4-Tray & 10-Tray

Belshaw Bros., Inc.
1750 22nd Ave. S.
Seattle, WA 98144
Phone: 206-322-5474 • Fax: 206-322-5425
Toll Free: 1-800-578-2547
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If you accept the machine from the shipping company, you are, in effect, saying that the machine is in good condition, and you must pay for the machine. Belshaw cannot pay for shipping damage, because the freight company has accepted the machine from Belshaw in good condition, and is responsible for its safe delivery. For your protection, inspect the machine to see that no parts are bent, scratched, or otherwise damaged. If any damage has occurred in shipping, file a freight claim with the shipping company immediately.

WARNING

Keep this manual available at all times for use.

EQUIPMENT RECORD

Please provide the information below when you correspond with us about your machine.

Purchased by _____

Installed by _____

Date of Installation _____

Model number _____

Serial number _____

1004

MN-1876EN

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Preface

The Belshaw BX convection oven is a computerized, compact, electric oven with a capacity for either four or 10 trays. Each tray is 26" x 18".

The convection oven is made of stainless steel and is fitted with a removable tray rack, allowing easy cleaning of its internal surfaces.

The 4-tray oven is designed to be stackable without separate support, allowing the system to grow with your business without taking up a large area.

The 10-tray oven is equipped with an integral, energy efficient steam system. A double glazed door also helps to increase energy efficiency, and the oven base is supplied with locking castors.

The high-speed fan and ring element provides efficient air circulation, helping produce a range of high-quality products.

To help ensure safe and efficient operation of the oven, the operator must work safely at all times, read this manual, and follow its instructions and warnings. A thorough understanding of how to install, maintain, and safely operate the convection oven will help prevent production delays and injuries.

To use the convection oven safely, heed the following warnings and all other warnings that appear in this manual.

- Use the oven only for baking bread, confectionery, and savory products. Do not use for any other items without consulting Belshaw.
- All repairs and maintenance of electrical units must be done by authorized electricians.
- Electrical access panels must not be opened unless the main supply to the oven is isolated.
- All connections must be made in accordance with the regulations of the country where the oven is installed.
- Do not touch the oven, its windows, or immediate surroundings during or shortly after use, as these surfaces may be hot.
- Use only Belshaw parts in this oven.
- Do not change the construction of this oven.
- The owner of the oven is legally obligated to instruct staff using the oven in its operation and in these safety regulations. The instructions must stay in the oven's working area.
- This oven uses a steam generator. Hard water must be properly treated before use.

Installation 1

Unpacking the oven

1. Move the crate containing the oven to the workstation.
2. Remove the machine from the shipping crate, being careful not to lose, loosen or damage any parts.
3. Remove all packing materials from the machine.
4. Inspect the machine to see that no parts have been damaged during shipping. If any damage has occurred, file a freight claim with the shipping company immediately.

IMPORTANT
Keep this manual available for future reference.

Dimensions and Specifications

	2618 4 tray oven	**2618 10 tray oven**
Height	21 inches	74 inches
Depth, door closed, including handle	44 inches	53.5 inches
Width	33.5 inches	33.5 inches
Operational clearance*	2” back and sides, 10” top	2” back and sides, 10” top
Total power	7.25 kW	17 kW
Electric	208 V, 3-phase + N + E, 60Hz, fused at 35A	208 V, 3-phase +N + E, 60Hz, fused at 58A
Supply cable	6 feet of cable provided	6 feet of cable provided
Loading	7 kW concentric ring element	16 kW (2 - 8 kW concentric ring elements)
Fan drive	Direct to motor	Direct to motor
Tray size	26” x 18”	26” x 18”
Tray capacity	4	5, 9, or 10
Damper	Butterfly type	Butterfly type
Noise level	Less than 85 dB	Less than 85 dB

* Operational clearance is the amount of space required at the back, sides, and top of the oven to allow adequate air circulation.

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Water Supply

- The BX oven is fitted with a steam generator. In areas with hard water, the water supply to the oven must be treated with an appropriate protecting water treatment device. It is the sole responsibility of the customer to provide and maintain an appropriate water treatment system.
- For stacked ovens, the water supply should be shut off by closing the shut-off valves. (See Figure 1-1)
- For non-stacked ovens, the water supply should be shut off at the nearest shut-off point.

The BX oven needs the following for the water supply:

- ¾" BSP female thread on the oven.
- 3 foot-long hose with ¾" B.S.P. female fittings at both ends (included)
- Inline backflow valve (customer must provide and fit)
- 15-60 p.s.i. water pressure

Installation

The BX oven should be connected to a local means of isolation.

- To stop the oven in an emergency, switch off at the wall isolator.

Initial Cleaning

Carefully wipe the interior of the oven and all accessories with a clean cloth soaked in warm soapy water and allow the oven to dry completely.

IMPORTANT

When cleaning the inside of the 4-tray oven, be careful not to damage the control probe protruding from the upper corner of the chamber's rear wall.

WARNING

Do not allow water to enter the control panel or rear access panel.

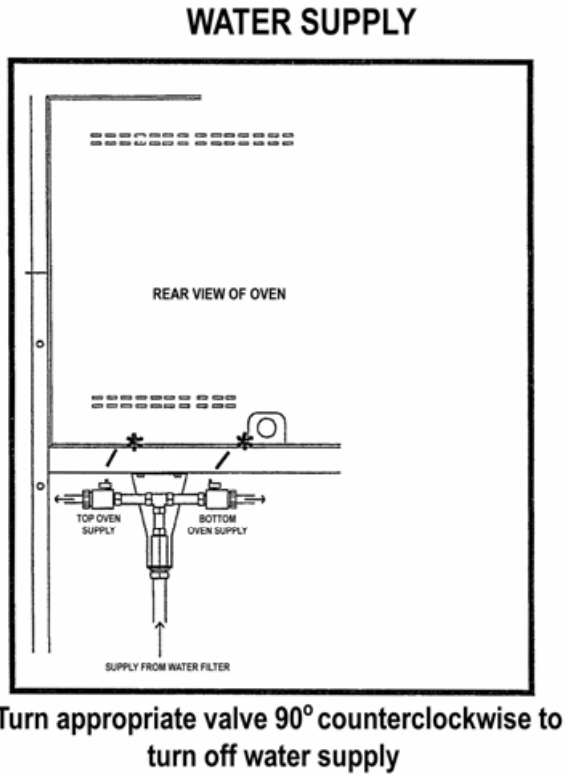

Figure 1-1. Turning off the water supply.

Programming the control panel

Pre-set values for bake temperatures, bake time, steam and damper may be modified at any time. Numbers in parentheses reference numbers in Figure 1-2.

To change the program values:

1. Press the up and down arrow keys (2) to select the program you wish to change.
2. Press the key next to the value you wish to change (i.e. temperature or time) (6-9). A selection indicator will flash in the right hand side of the selected window. Use the up/down arrow keys to modify the value.
3. The program can be run using these values as a temporary setting, or the setting changes can be saved. If the program changes are not saved, the settings will revert back to the original settings the next time the program is selected.
4. To save the changes, press and hold the P key (5). All displayed values will flash and the controller will beep to indicate the program has been saved. After the controller has beeped, release the P key.

Note: Programs cannot be saved during a bake cycle.

Function of Setting

Key 6: Vent Time. This is the number of minutes at which the vent will wait to open during the bake cycle.

Note: This time cannot exceed the bake time.

Key 7: Steam Time. This is the amount of time the steam will inject at the beginning of the bake. Time can be set from 1-15 seconds.

Note: The oven must be above 257° F (125° C) before the steam will inject.

Key 8: Bake Time. This is the amount of time the product will bake. Time can be set from 1-99 minutes.

Key 9: Temperature. This is the temperature at which the oven will bake the product. Temperature can be set from 122° F to 482° F (50° C to 250° C).

Fan Cycle Setting

1. Press the P key (5) and the Stop key (4) at the same time, and hold for five seconds. The display will show “FAN 00” if the fan is currently disabled or “FAN 01” if the fan is currently enabled.
2. Use the up/down arrow keys to select the fan setting.

Note: The default setting for the fan is "fan cycling disabled."

Note: In a 4-tray oven, the fan is only functional in an oven wired for 3-phase. If activated in a 1-phase oven, the fan will automatically stop.

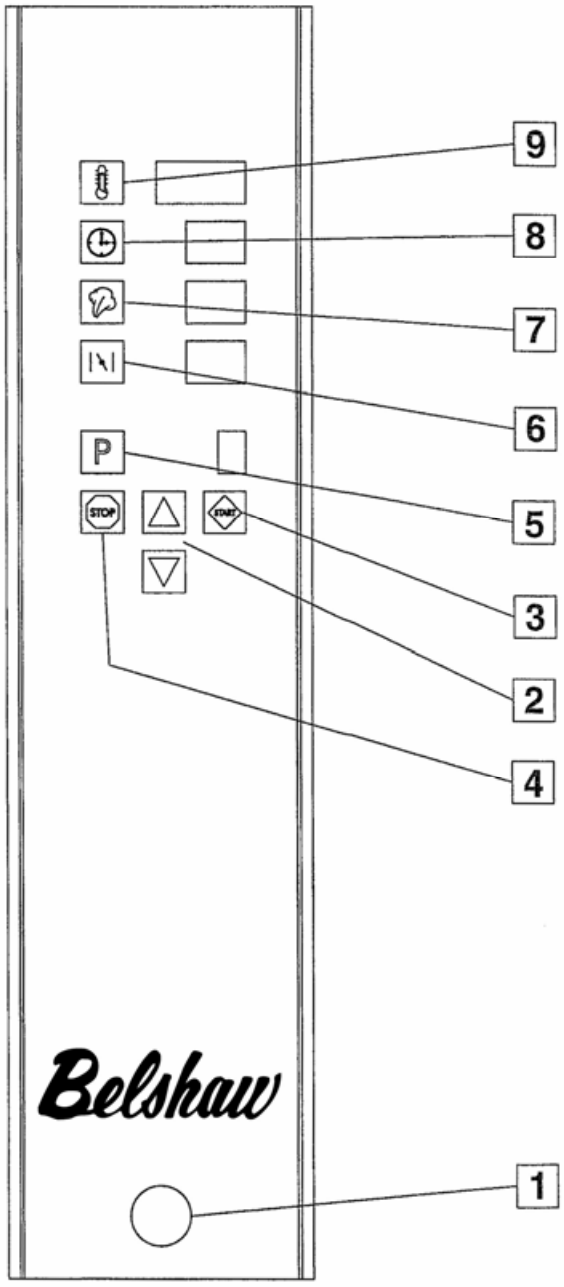

Figure 1-2. 'Classic' oven control panel.

Operation 2

Operating conditions

For the most efficient operation, the following instructions must be followed. Failure to comply with these guidelines may affect the warranty.

- The ambient temperature around the oven must not exceed 115° F (40° C).
- The ventilation around the oven should be enough to ensure that there is no condensation on or around the oven from steam.
- It is the customer's responsibility to arrange for adequate ventilation and operational clearance at the back and sides of the oven to allow circulation of air.

Running Pre-set programs

1. Turn on the power by pressing the green power button and make sure the oven door is completely closed.
2. Select the desired program using the UP/DOWN arrow buttons.
3. Press the START button to preheat the oven, beginning the bake cycle. The oven will heat to the set temperature and the display will flash the actual temperature. When the set temperature is reached, the display will stop flashing and the oven is preheated.
4. Load the product and close the door.
5. Press START. The display will show the following information:
    - Actual temperature
    - Remaining bake time in minutes and, during the last minute, in seconds.
    - Steam time (if applicable) in seconds. If the actual temperature is less than the minimum steam temperature (257° F, 125° C), "--" will be displayed. This indicates that the steaming function is disabled.
    - Time in minutes the damper is open
    - Program number alternating with the spinning bake cycle indicator
6. Press STOP when bake oven alarm sounds or when the product is done. If additional baking time is required, do not press stop. To add time, select the bake time and increase it.
    - Note: Pressing the TIME button will automatically extend the bake time to the next whole minute. For example, if there is 1 min. 20 sec. Remaining on the clock, pressing the TIME button will extend the time to 2 minutes. This allows one to extend the bake time up to one minute with a single press of a button.

WARNING

Stand clear of the oven door when opening to avoid the hot steam and vapor. Hot steam or vapor may cause severe burns.

WARNING

Always preheat the oven to required temperature. Do not place product directly into a cold oven.

Cleaning and Maintenance 3

Daily Cleaning

1. Disconnect the oven from main power supply and allow to cool completely before cleaning.
2. Use only approved chloride-free cleaning fluid for daily cleaning.
3. Carefully clean the oven, being sure to not damage the control probe in the upper corner of the rear wall inside the chamber.
4. Do not let any liquid enter the control panel or rear access panel.
5. Dry completely.

Weekly Cleaning

1. Complete the daily cleaning.
2. Carefully clean off any burnt-on debris using an appropriate oven cleaner, following the manufacturer's instructions. **Do not allow the oven cleaner to get in the control panel.**
3. Scrub the cabinet wheels (if fitted) with a mild detergent and hot water, using a nylon cleaning brush.
4. Open the oven door and remove the internal racking from the sides of the oven by lifting and unlatching the racking. Wipe out the interior with a damp cloth.
5. Open the inner door glass by removing two screws shown in Figure 3-1. The glass is hinged to allow a more thorough cleaning (BX-4 only).

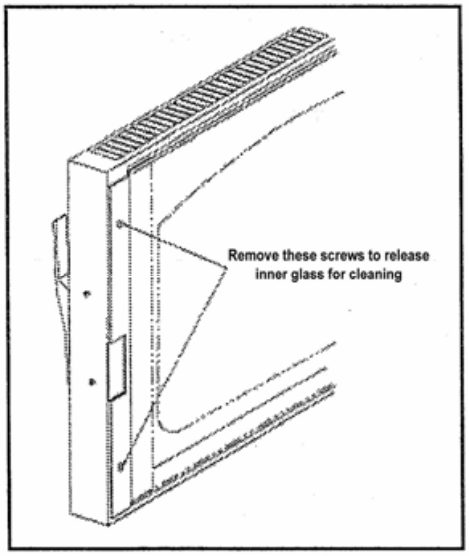

Figure 3-1. Removing the inner door glass (BX-4 only).

6. Clean the glass with a suitable glass cleaner.
7. Wipe down the oven and clean the racking with a damp cloth.
8. Reassemble all parts back in the oven after cleaning.

WARNING
In the 4-tray oven, do not damage the control probe protruding from the upper corner of the inside rear wall of the oven chamber.

WARNING
Make sure water does not enter the control panel or rear access panel.

WARNING
Do not remove the rear paneling inside the oven. This allows access to the fan assembly and could cause injury.

Maintenance

- Check for frayed or bare cables. The machine must not be used if there are frayed or bare cables.
- Follow cleaning instructions exactly.
- Check condition of the rubber door seal. Repair or replace if necessary.
- If the light bulb burns out, use the following instructions to replace it.
    a. Disconnect the oven from the main power supply and allow to cool.
    b. Remove the glass front from the lamp unit.
    c. Remove the bulb by unscrewing counterclockwise and replace with a new bulb.
    d. Refit the glass front.
    e. Reconnect the oven to the main power supply and test.
- If the steaming operation deteriorates, clean the pipe aperture with a pin to remove any build-up.

Lubrication

This machine does not require special lubrication.

TEMPERATURE PROBE
VIEW LOOKING INSIDE OVEN CHAMBER
(WITH RUNNERS REMOVED)
TEMPERATURE PROBE
IMPORTANT WARNING!
CARE MUST BE TAKEN WHEN CLEANING AROUND THE TEMPERATURE PROBE.
(IF ANY DAMAGE OCCURS TO THE TEMPERATURE PROBE
IT MUST BE REPLACED BEFORE ANY FURTHER COOKING OPERATIONS)
IF YOU HAVE ANY QUESTIONS - ASK
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
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1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
BX CLEANING INSTRUCTIONS
(SHOWING THERMOCOUPLE PROBE POSITION)
ELECTRICAL SPECIFICATIONS:-
DRAWN:
S.P.
ELECTRICALLY APPROVED BY:-
-
DATE:
21-2-98
DRAWING NO.
ME791
REV:
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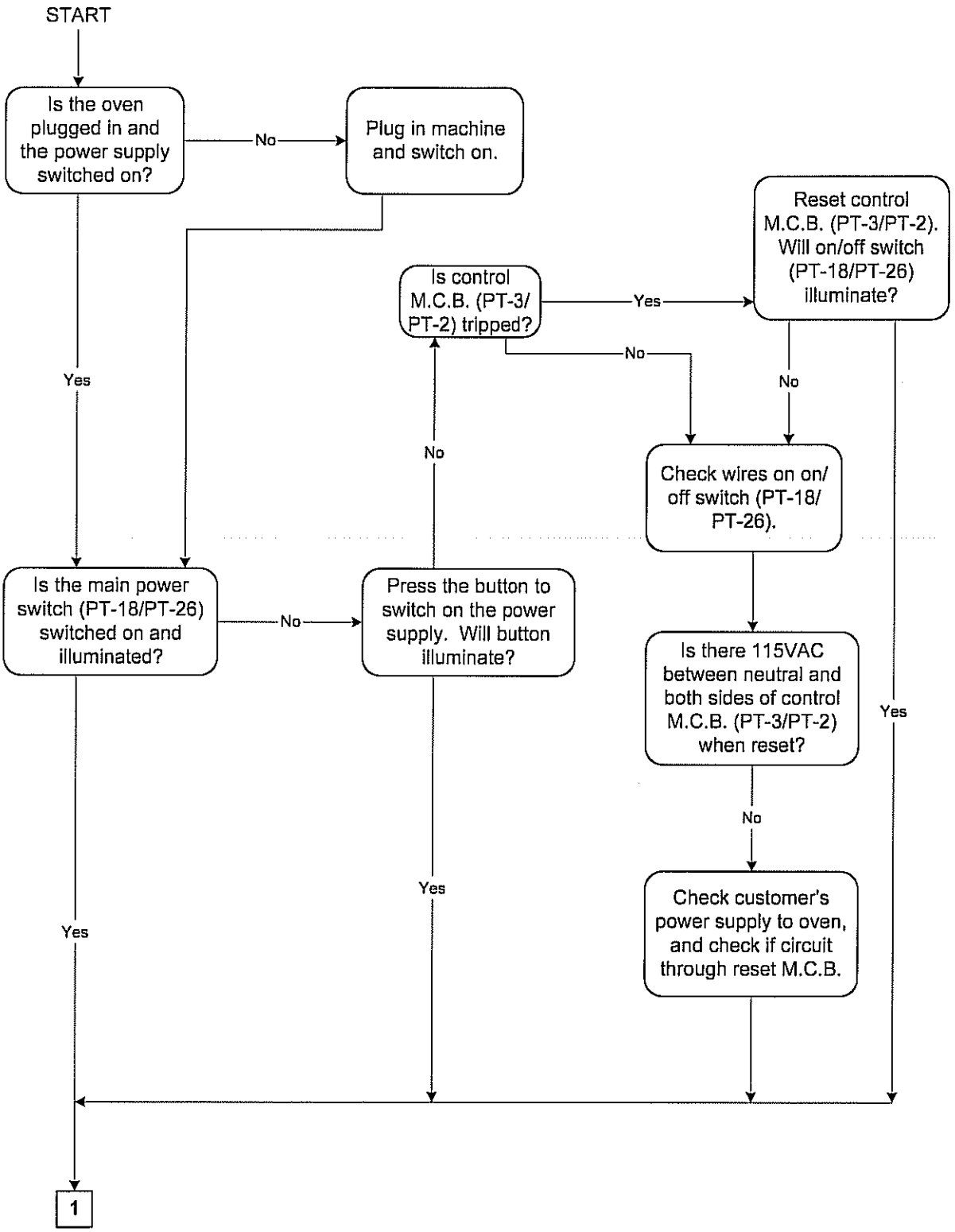
Troubleshooting 4

The following pages contain troubleshooting/ fault analysis charts for the Classic convection oven.

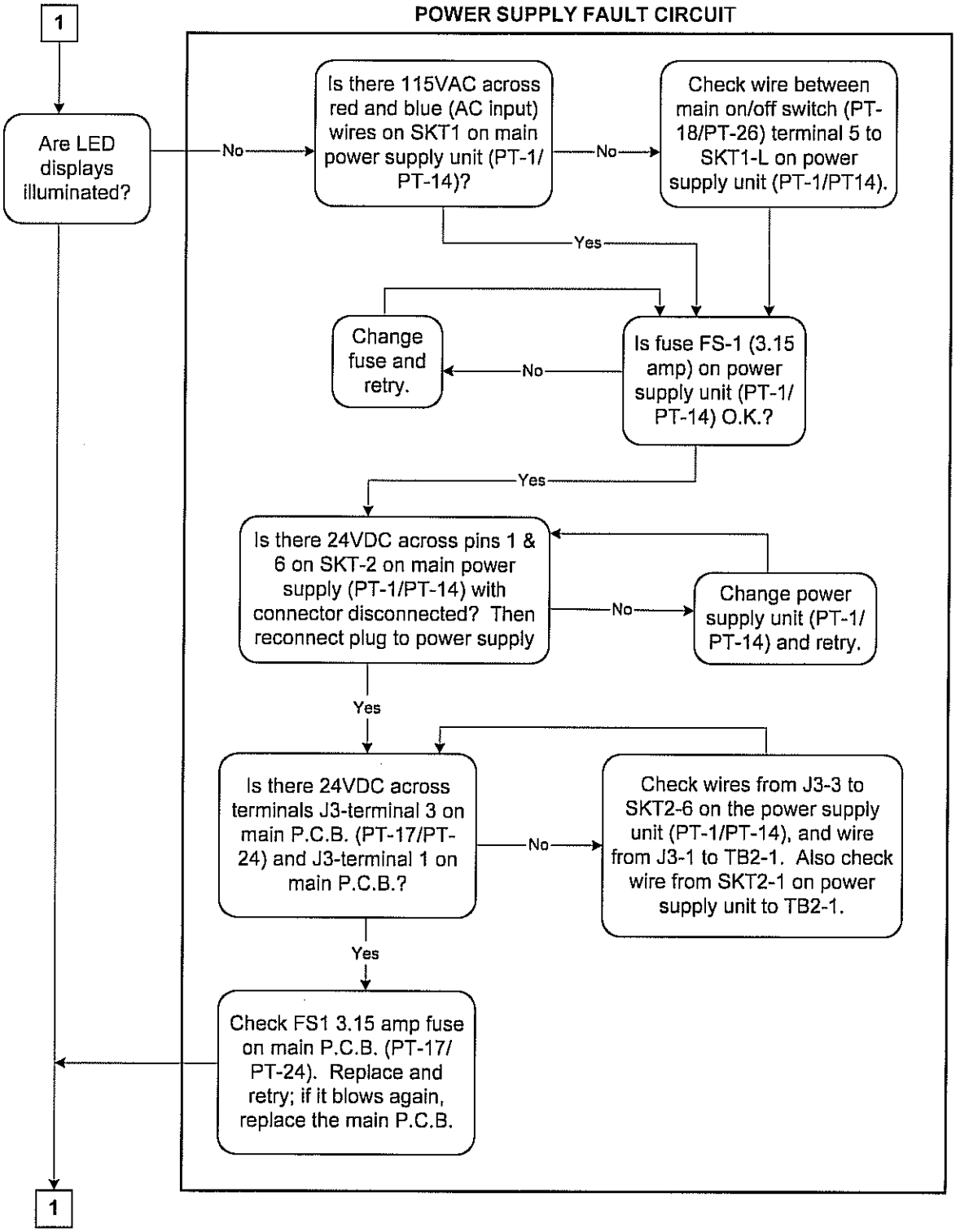
Error Codes for the BX Classic Oven		
Code	**Possible Causes**	**What To Do**
E01	Bake Data written to non-volatile (EEPROM) was not correctly verified as part of error checking.	EEPROM memory is integrated onto the microcontroller so this should be unlikely. Replace the controller.
E02	System read an out-of-range temperature value when retrieving bake data from EEPROM.	Any value above 250° C will cause this error. Indicated corruption of data. Reset back temperature to below 480° F/250° C.
E03	Thermocouple open circuit	Thermocouple or thermocouple wiring is bad. Check the thermocouple wiring. Replace as necessary

4 Tray & 10 Tray Classic LED Fault Analysis Chart



*Note: Part (PT) numbers are indicated in parentheses; 4-tray oven PT numbers are listed first, then 10-tray oven PT numbers.

4 TRAY & 10 TRAY CLASSIC LED FAULT ANALYSIS CHART



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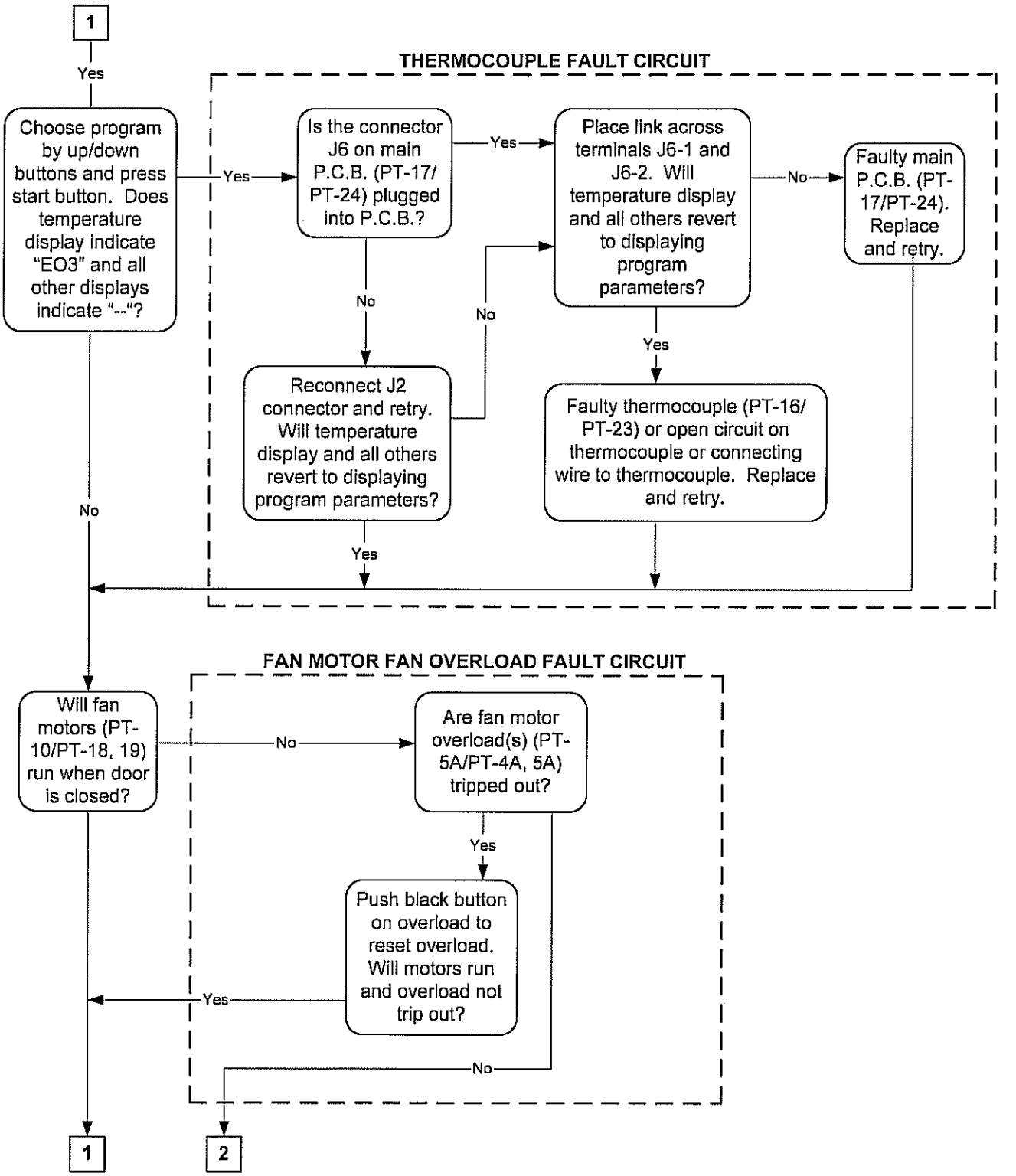

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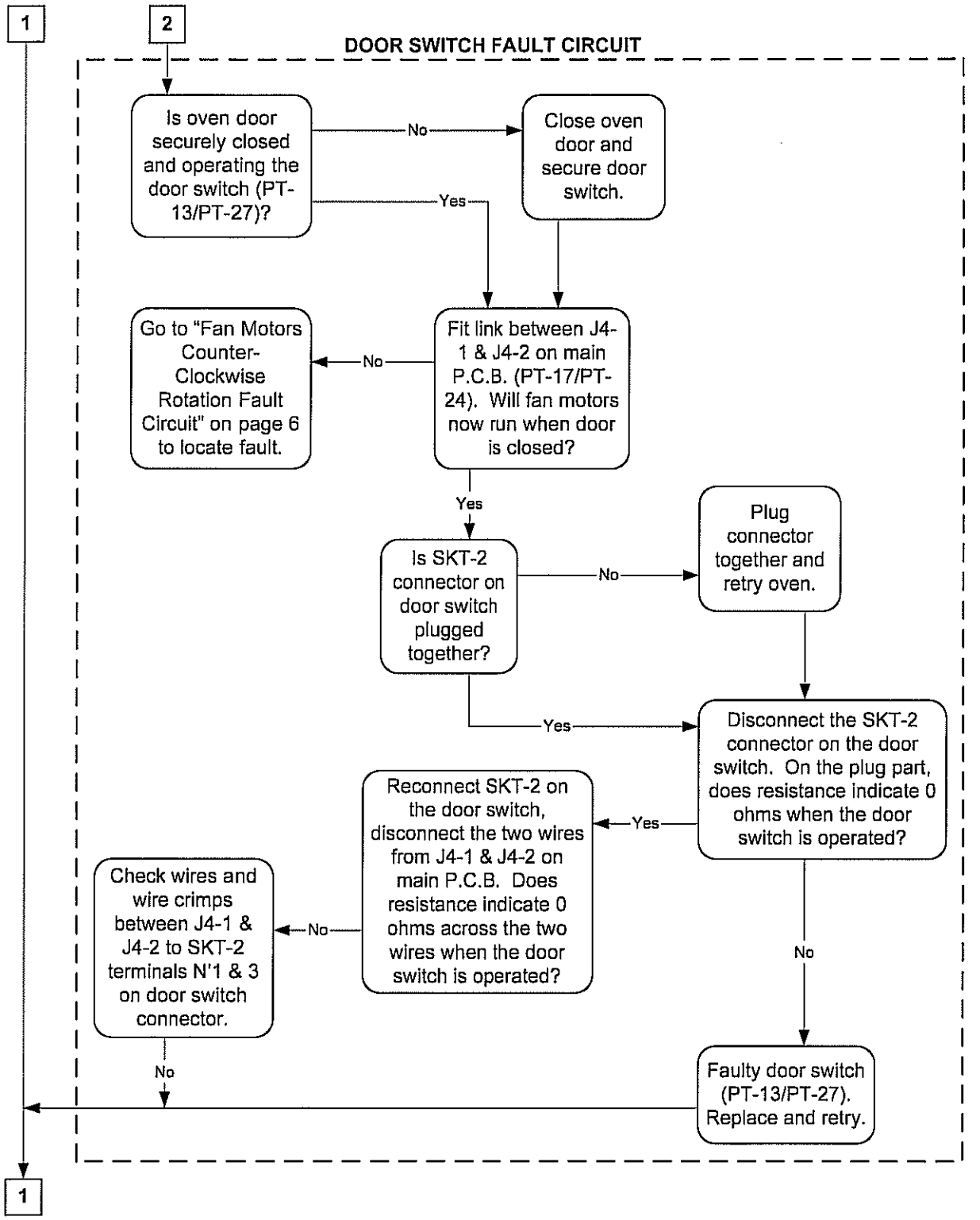
4 TRAY & 10 TRAY CLASSIC LED FAULT ANALYSIS CHART



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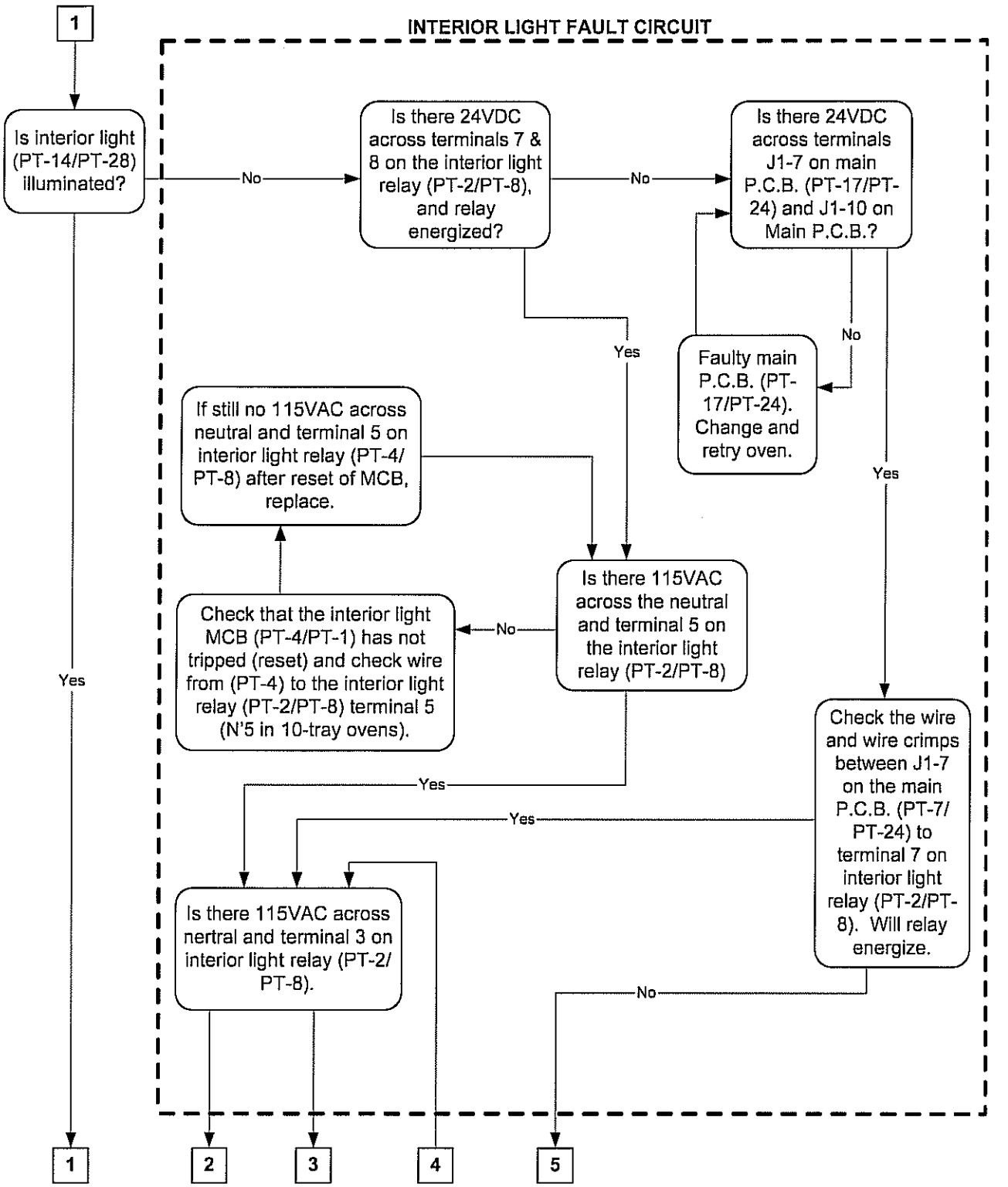

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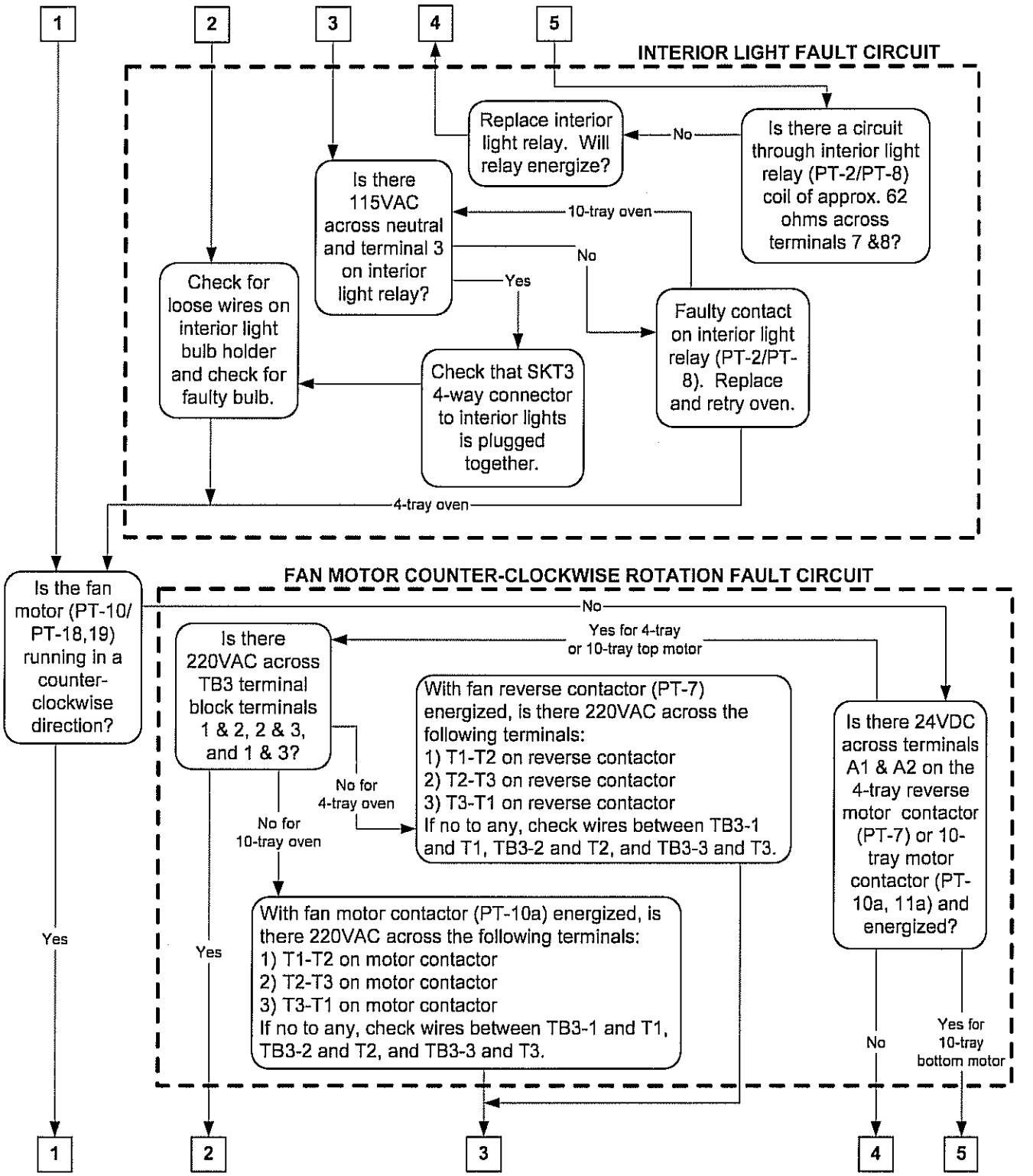

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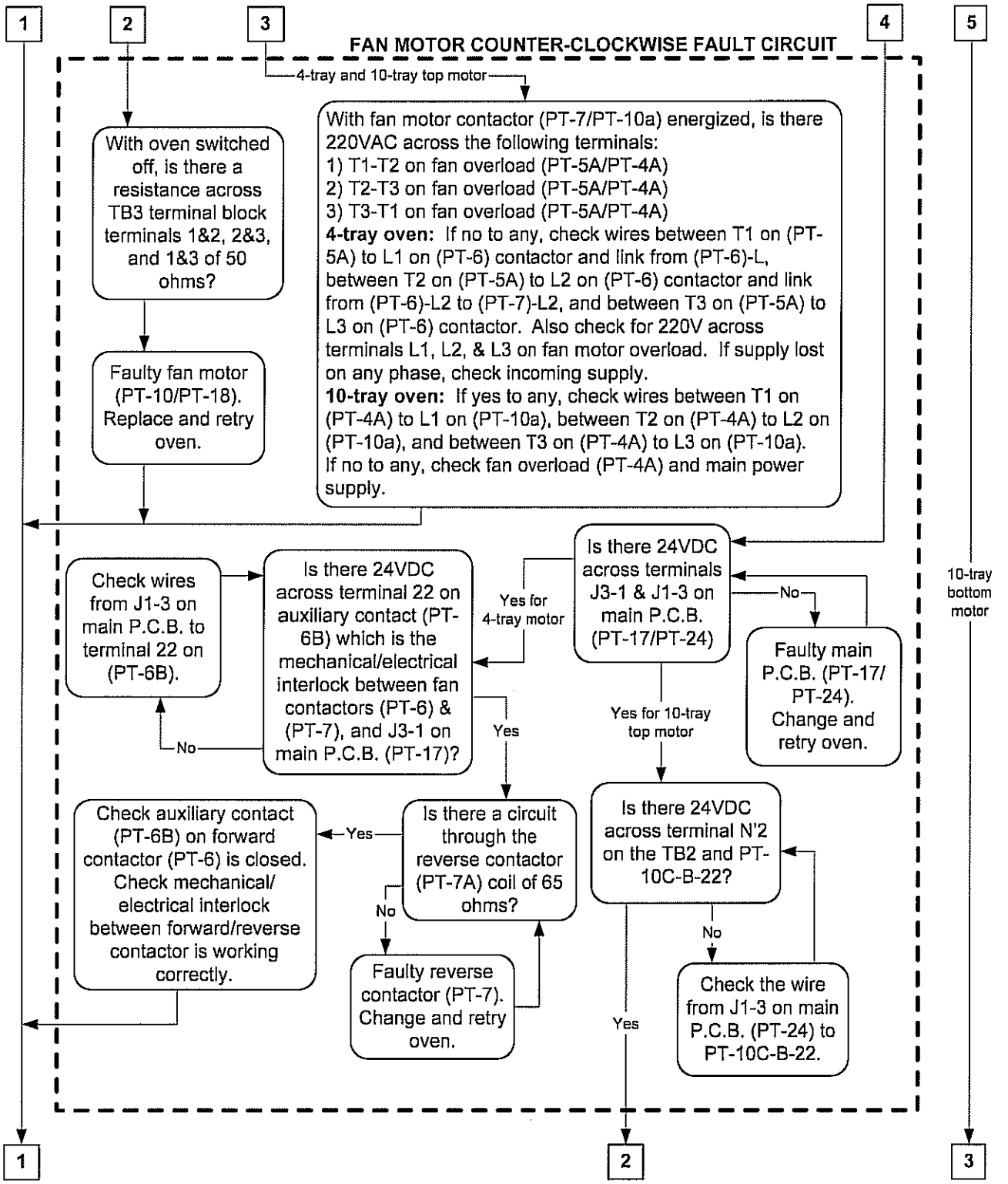

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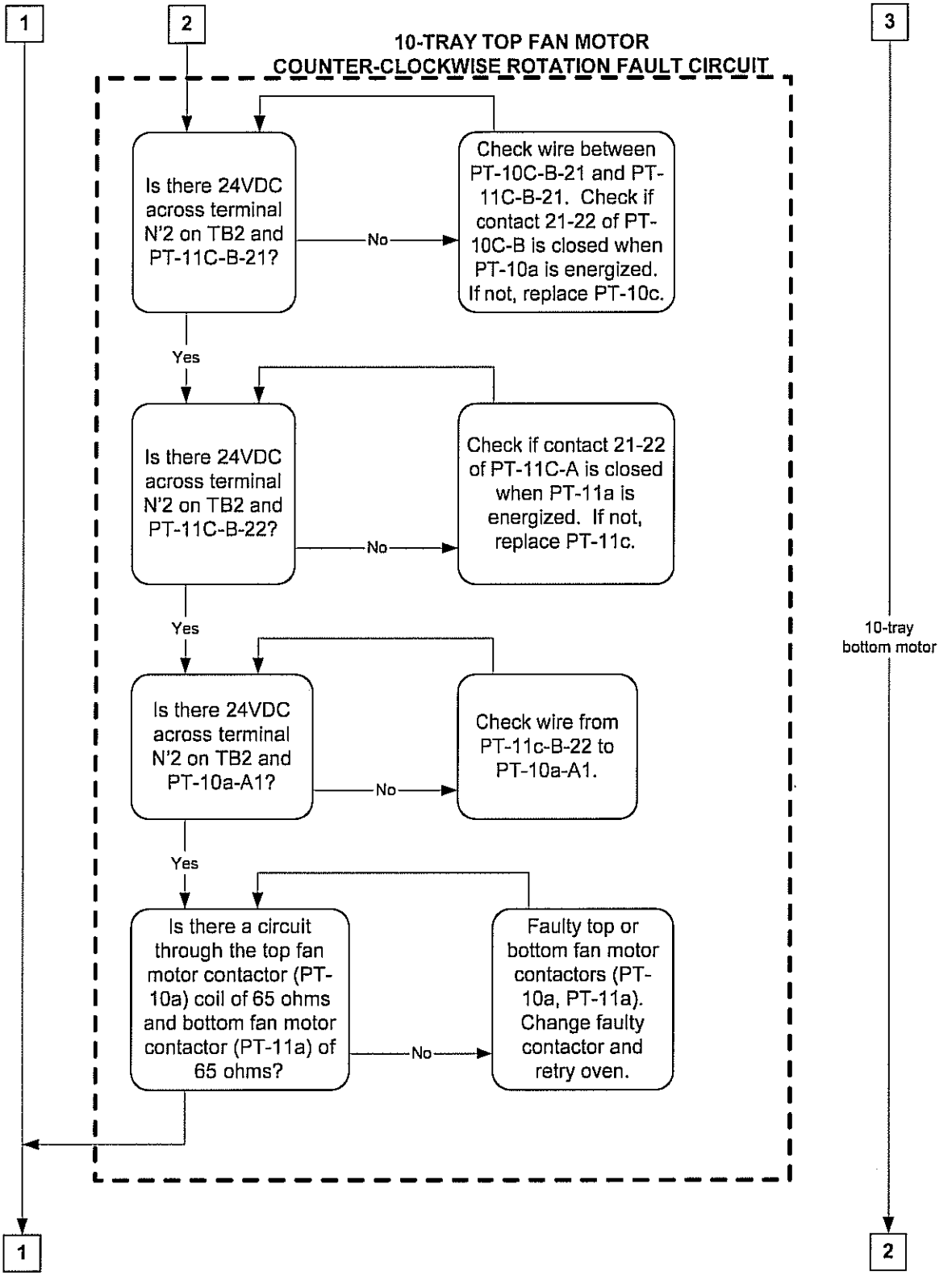

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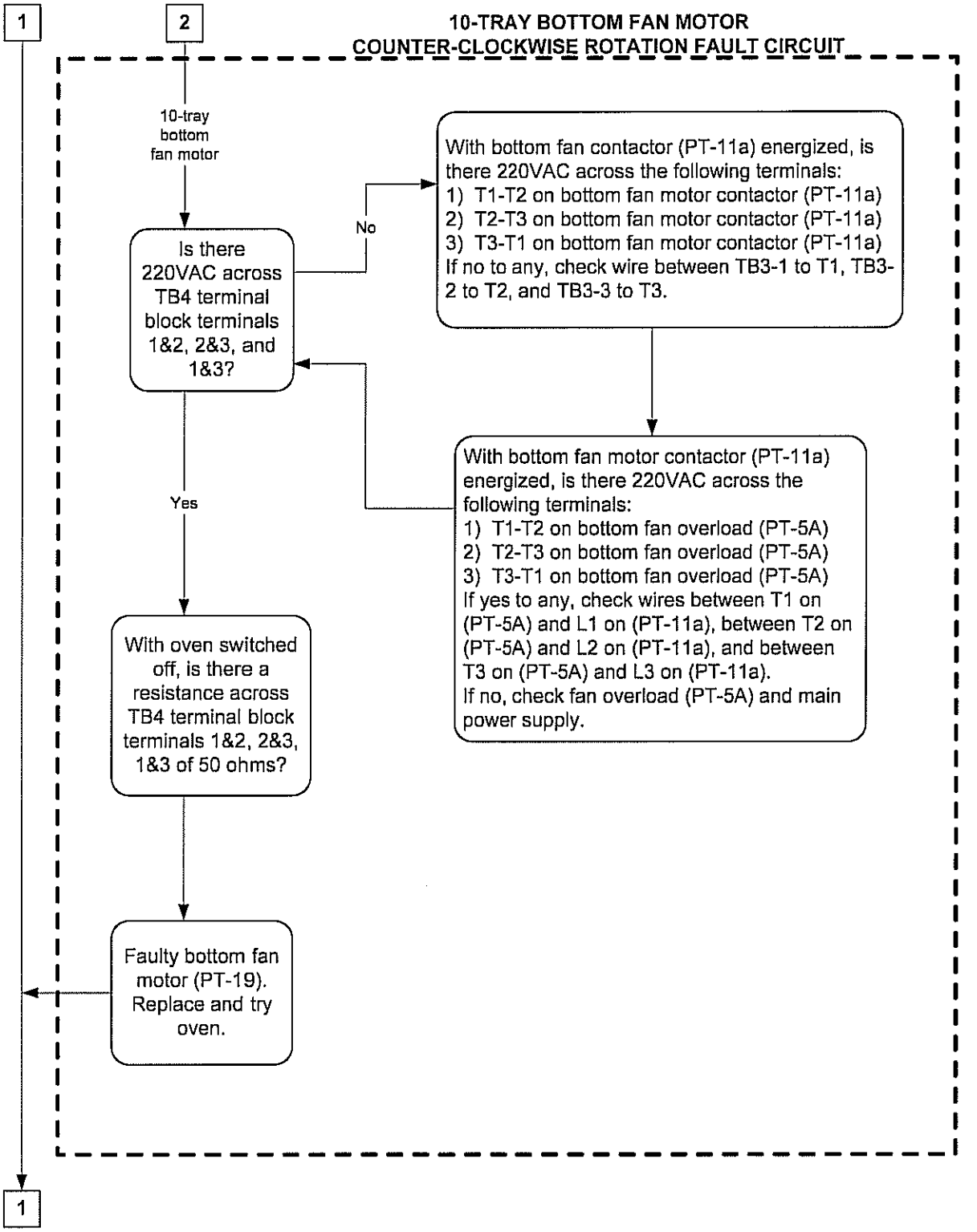

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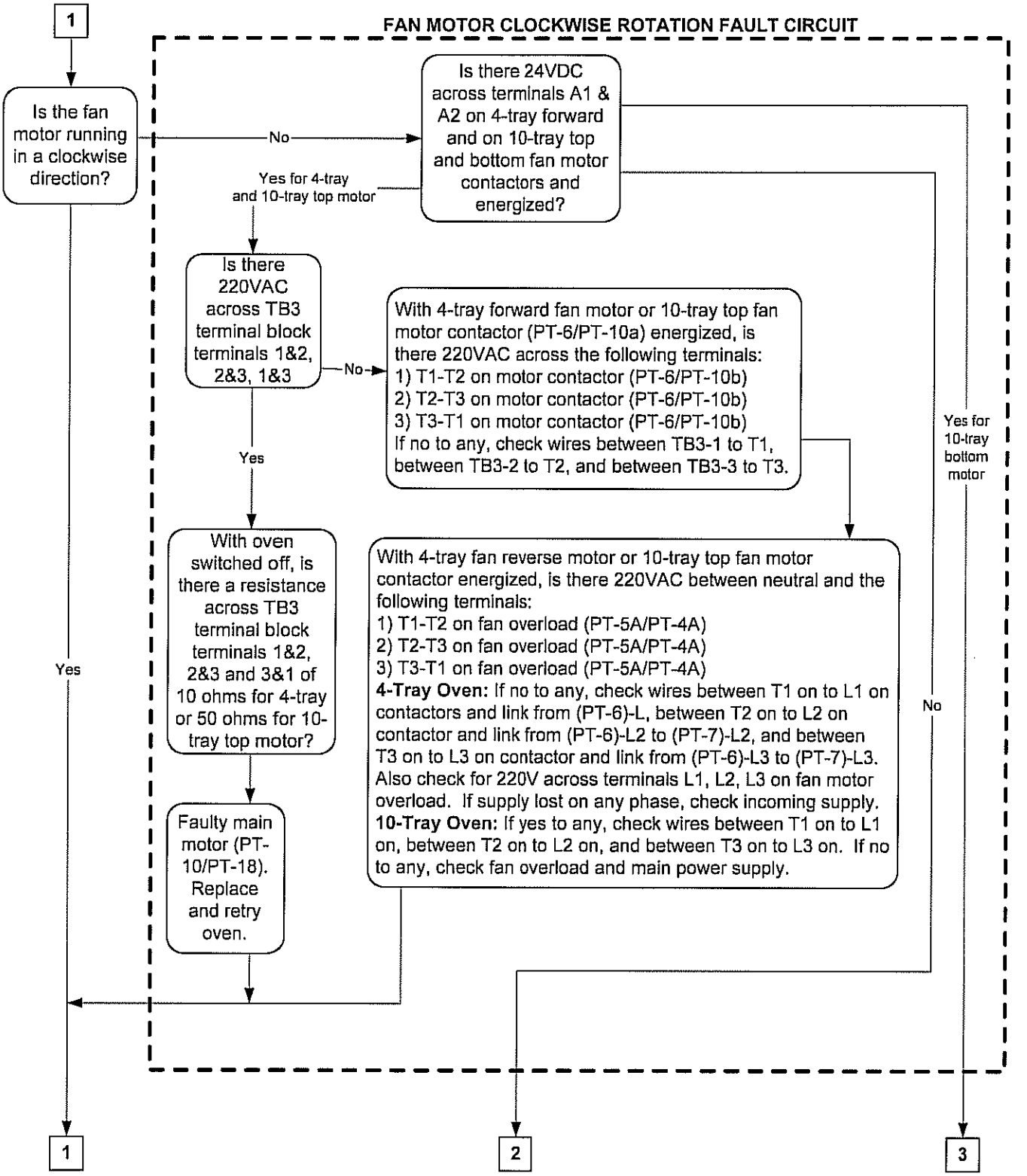

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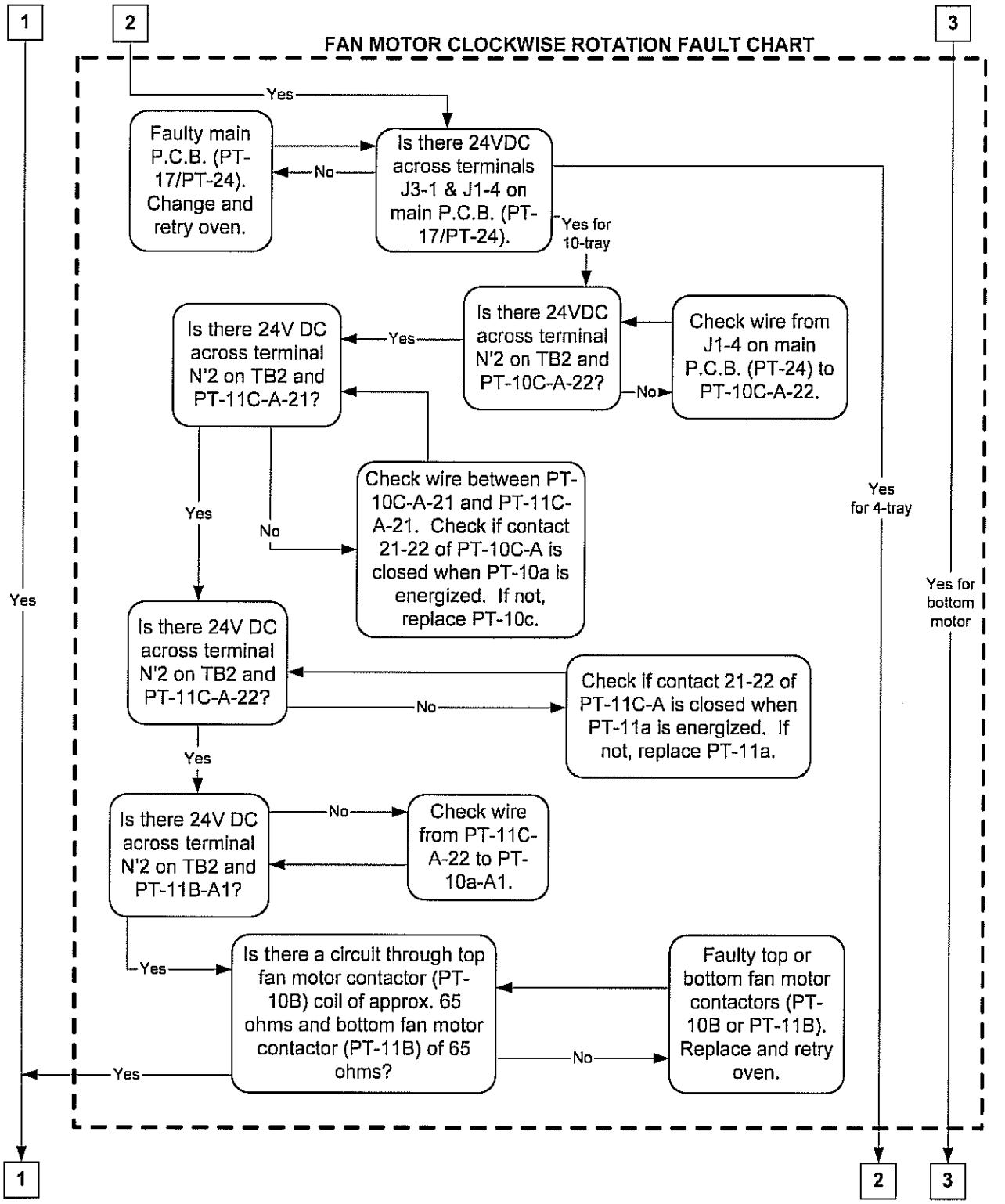

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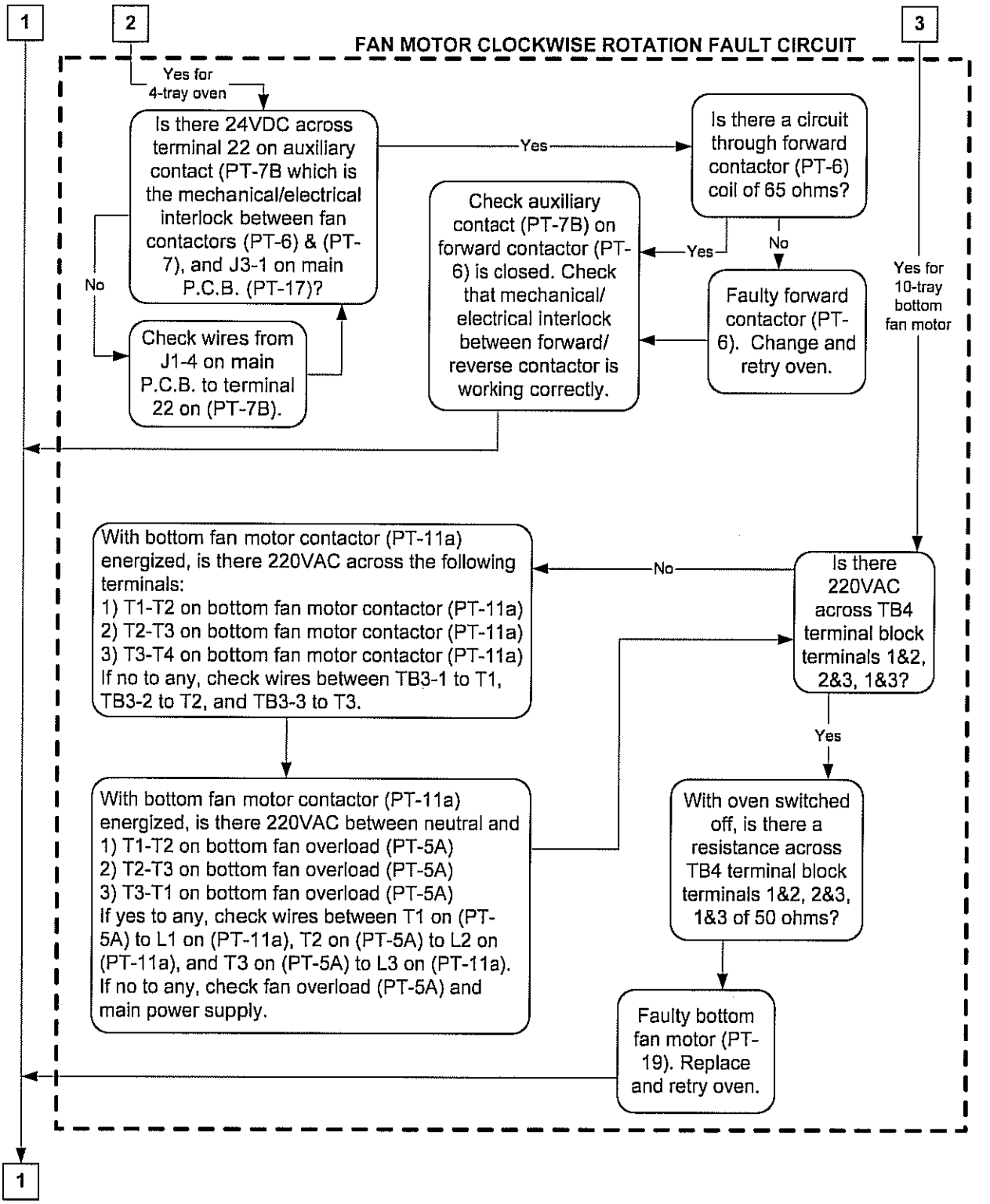

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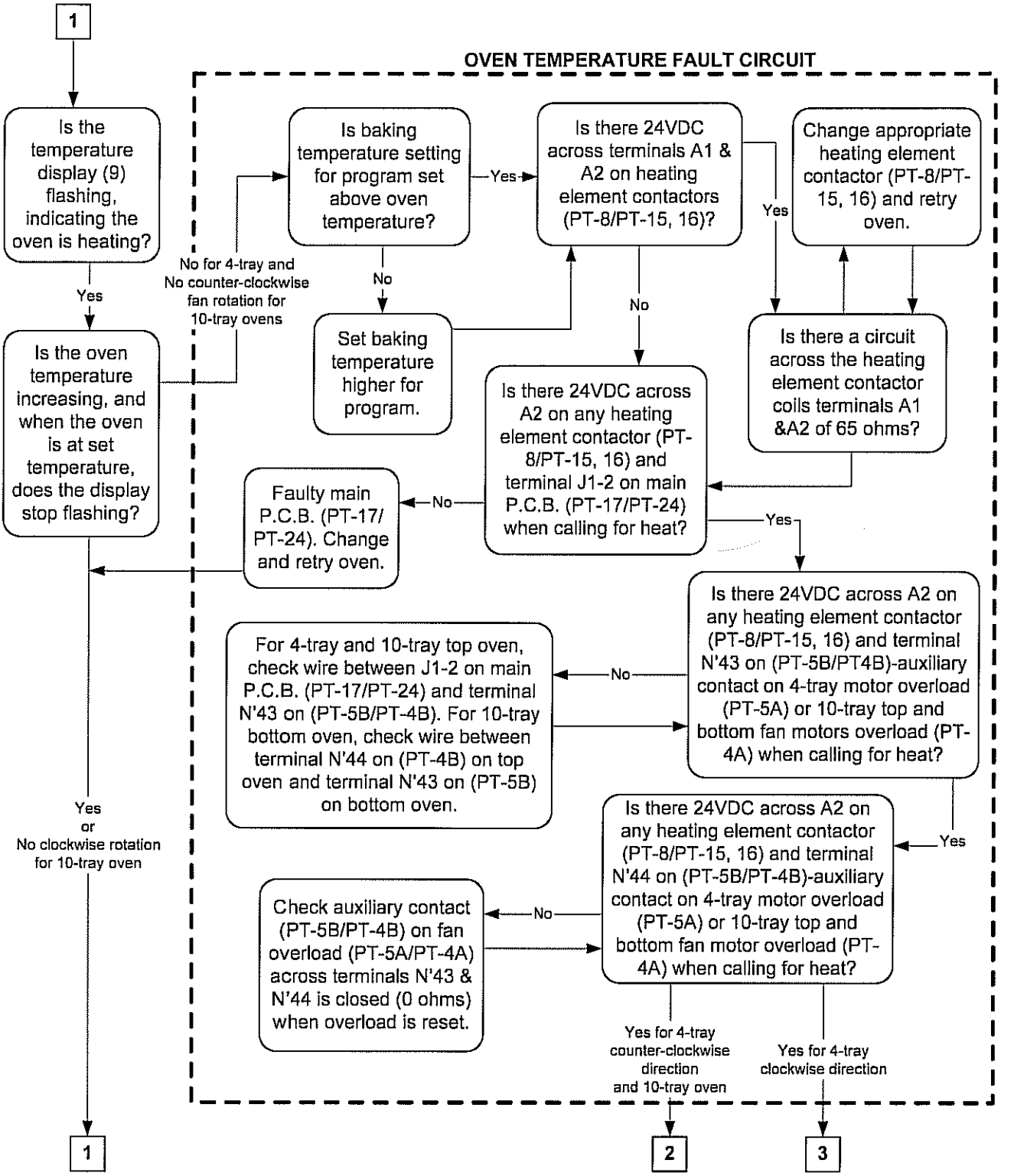

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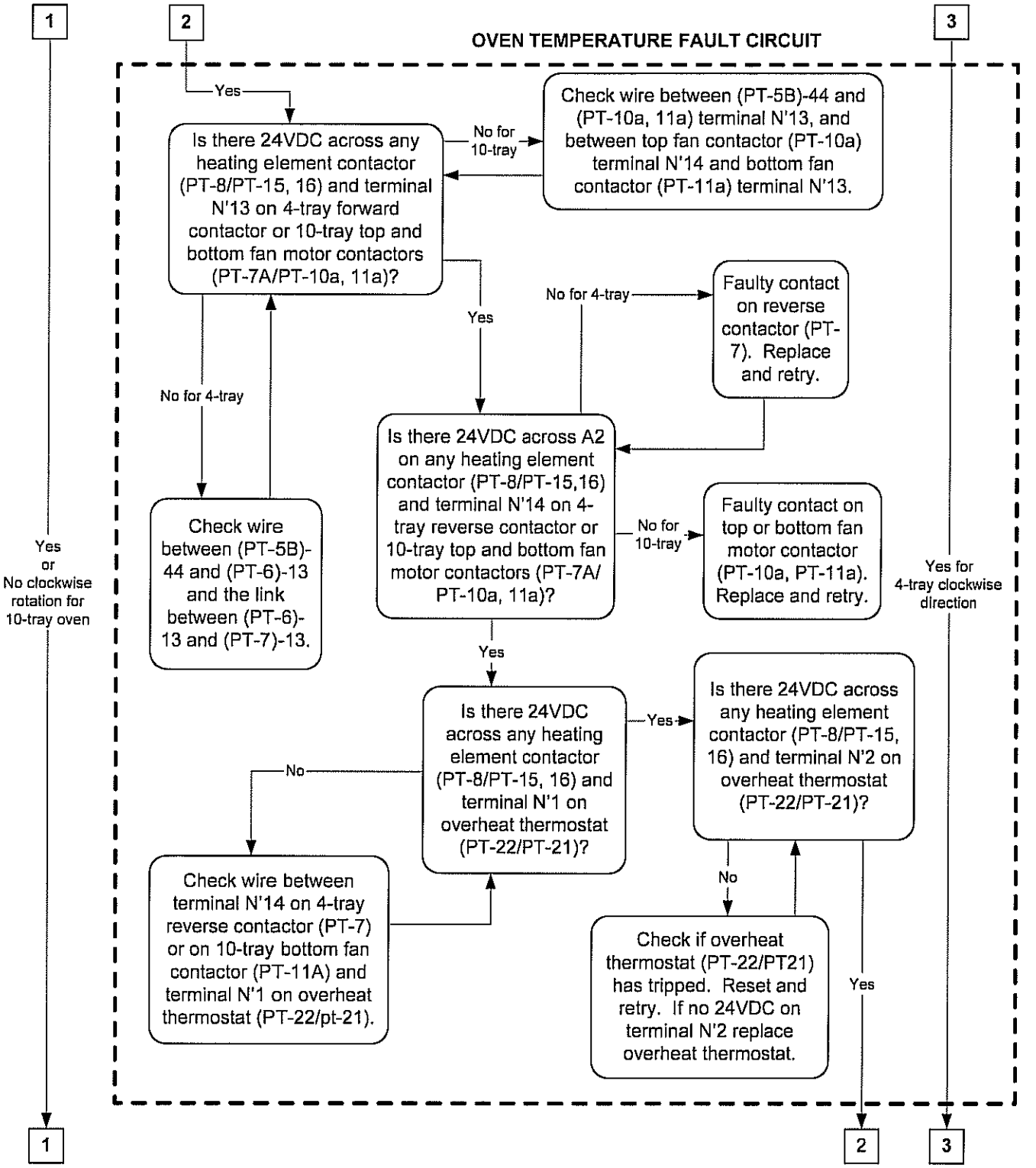

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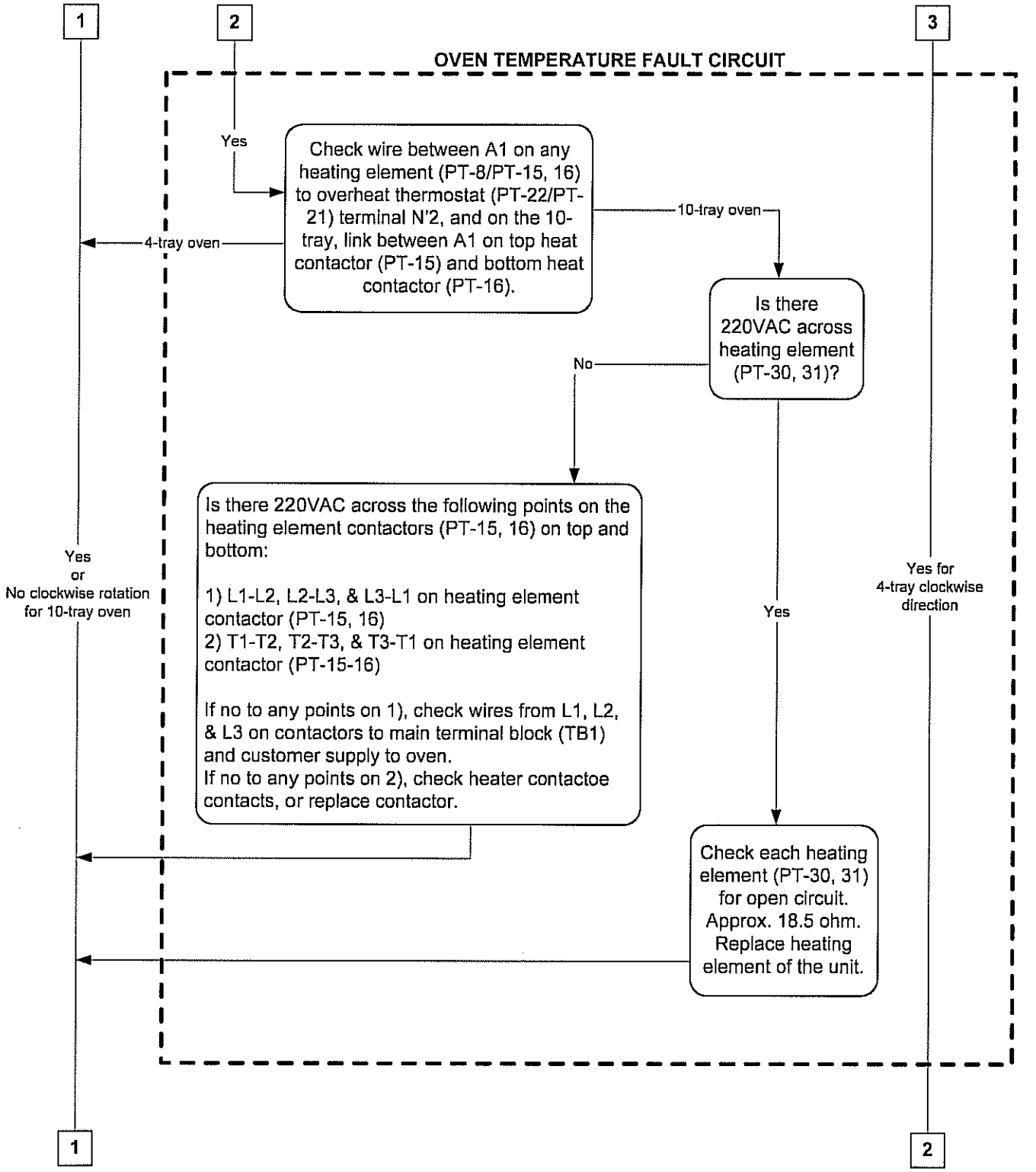

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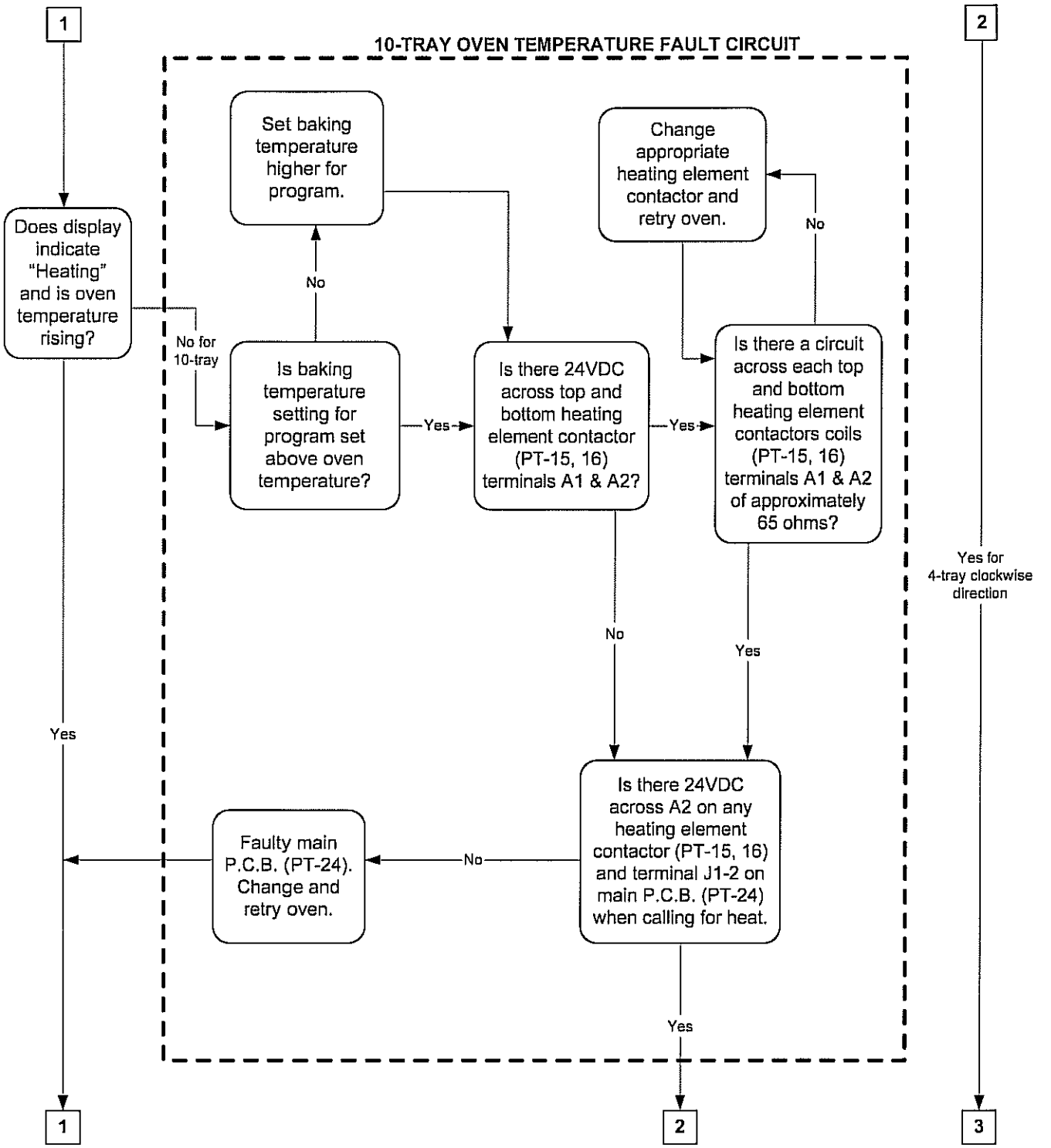

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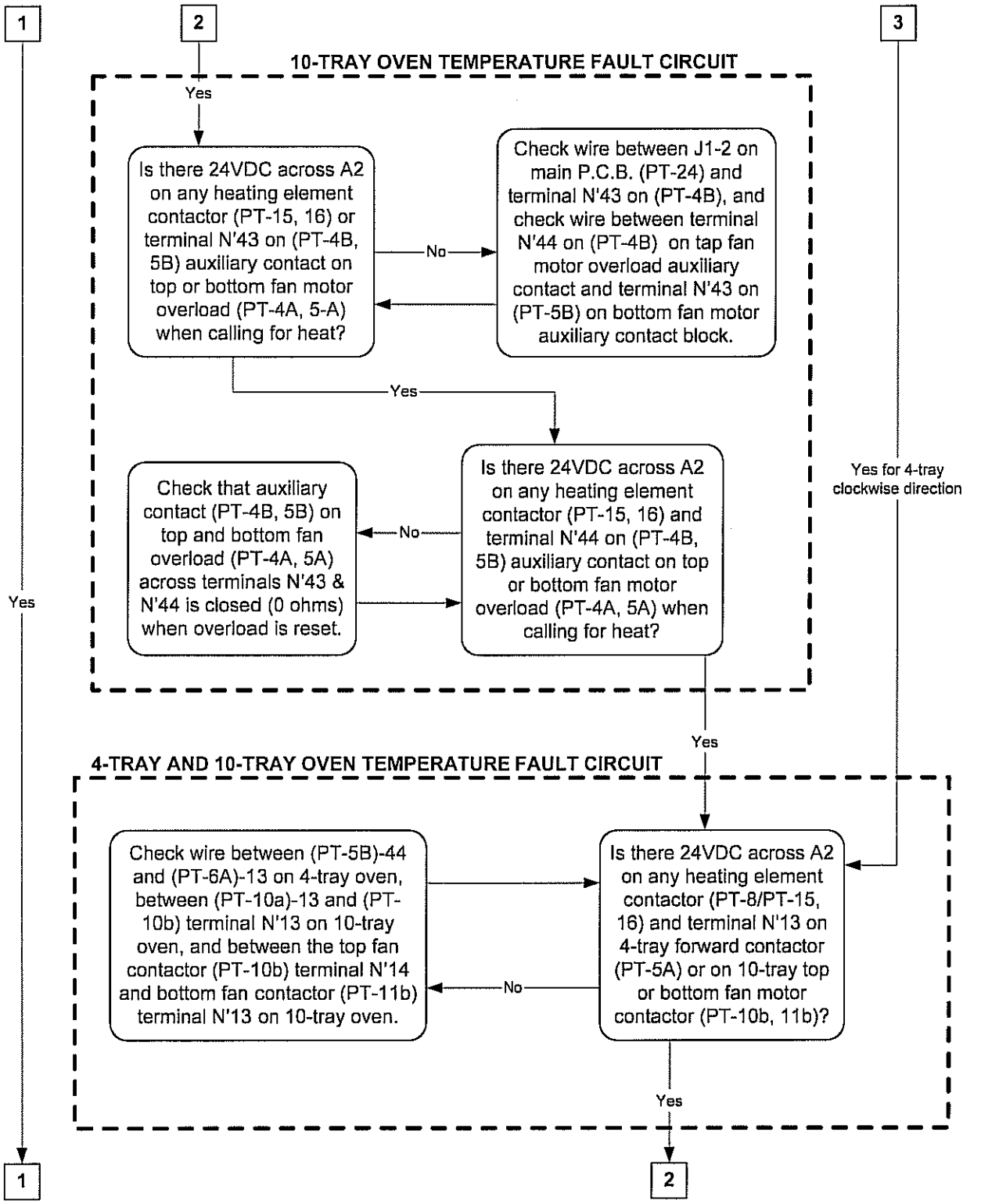

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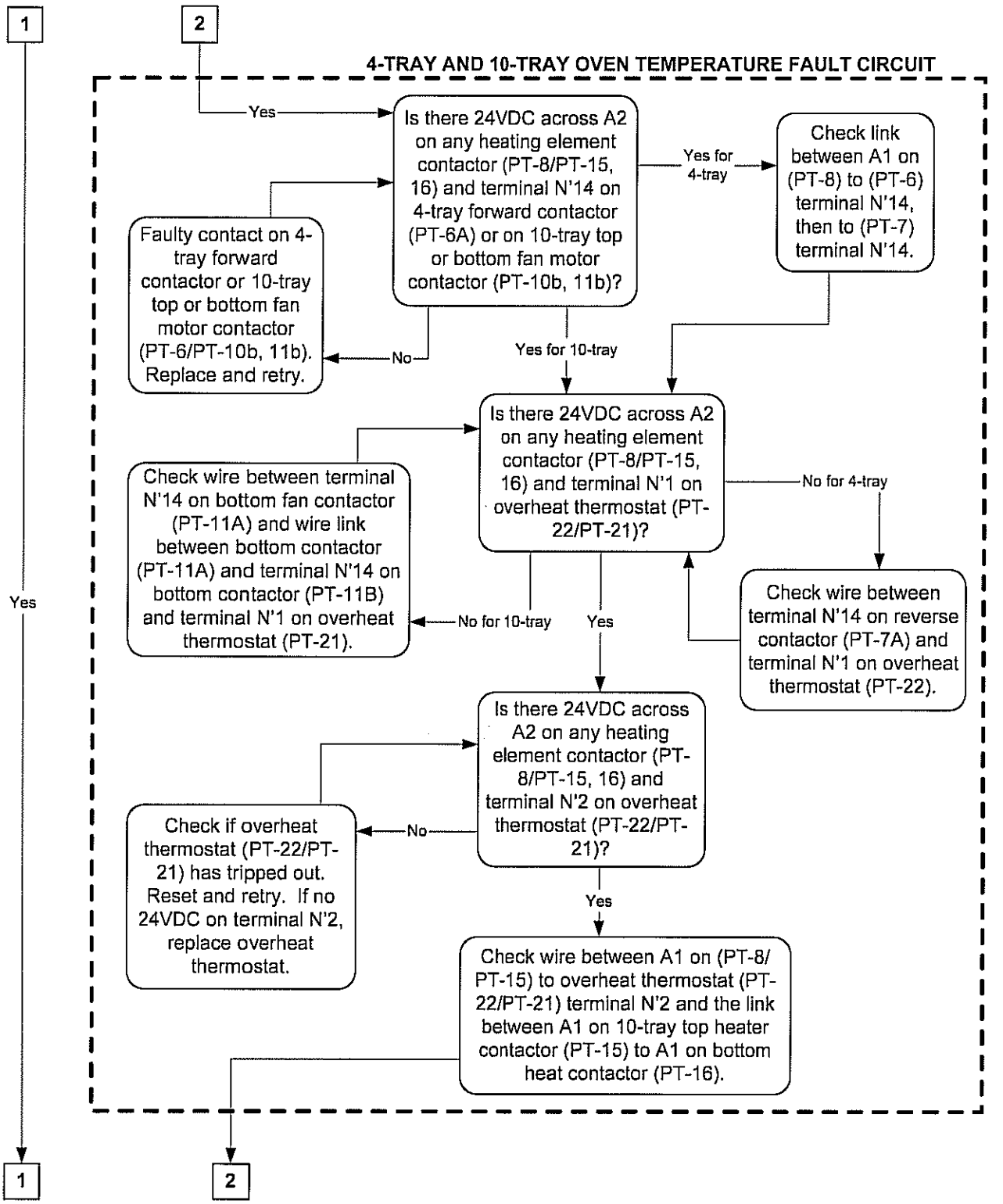

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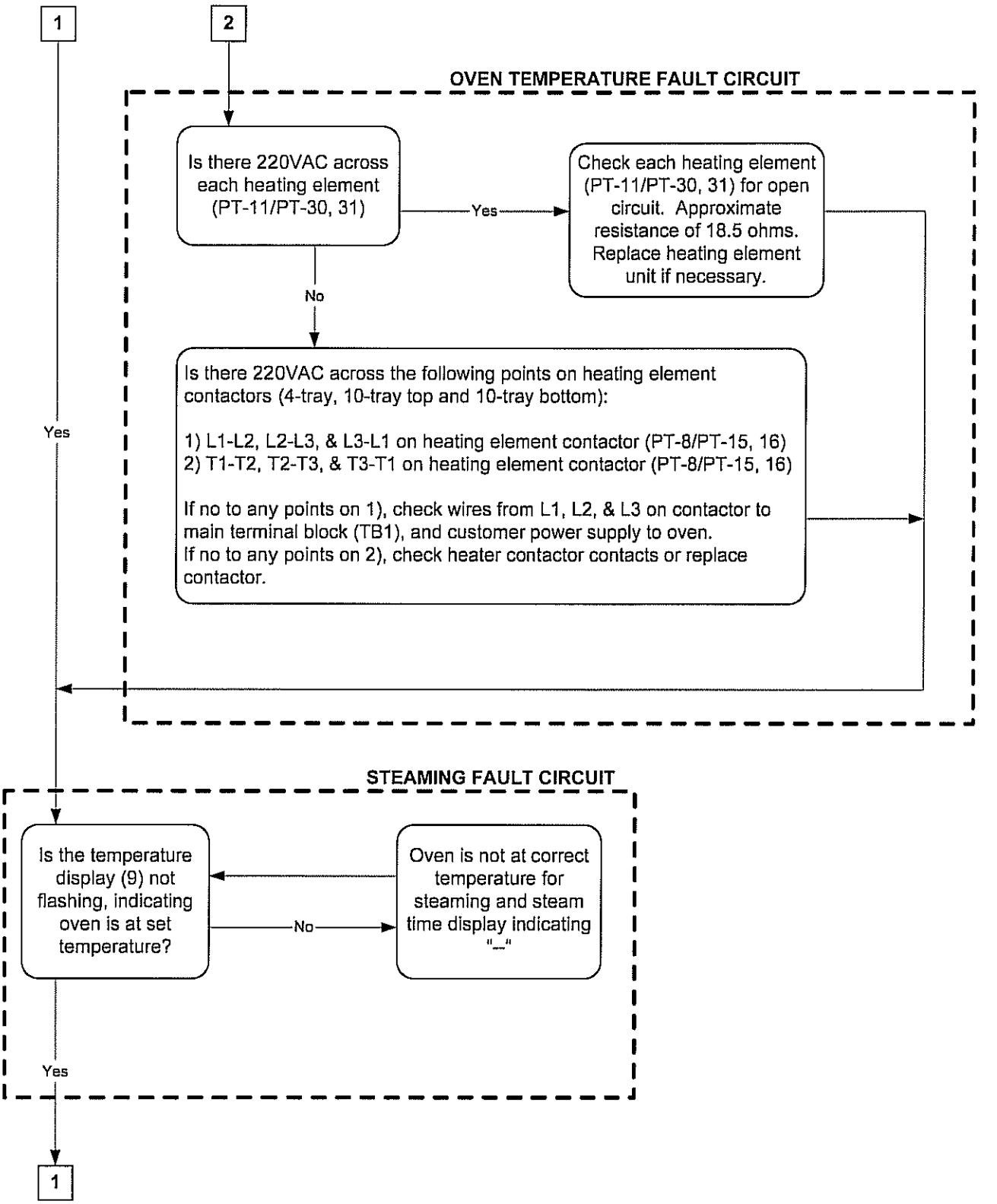
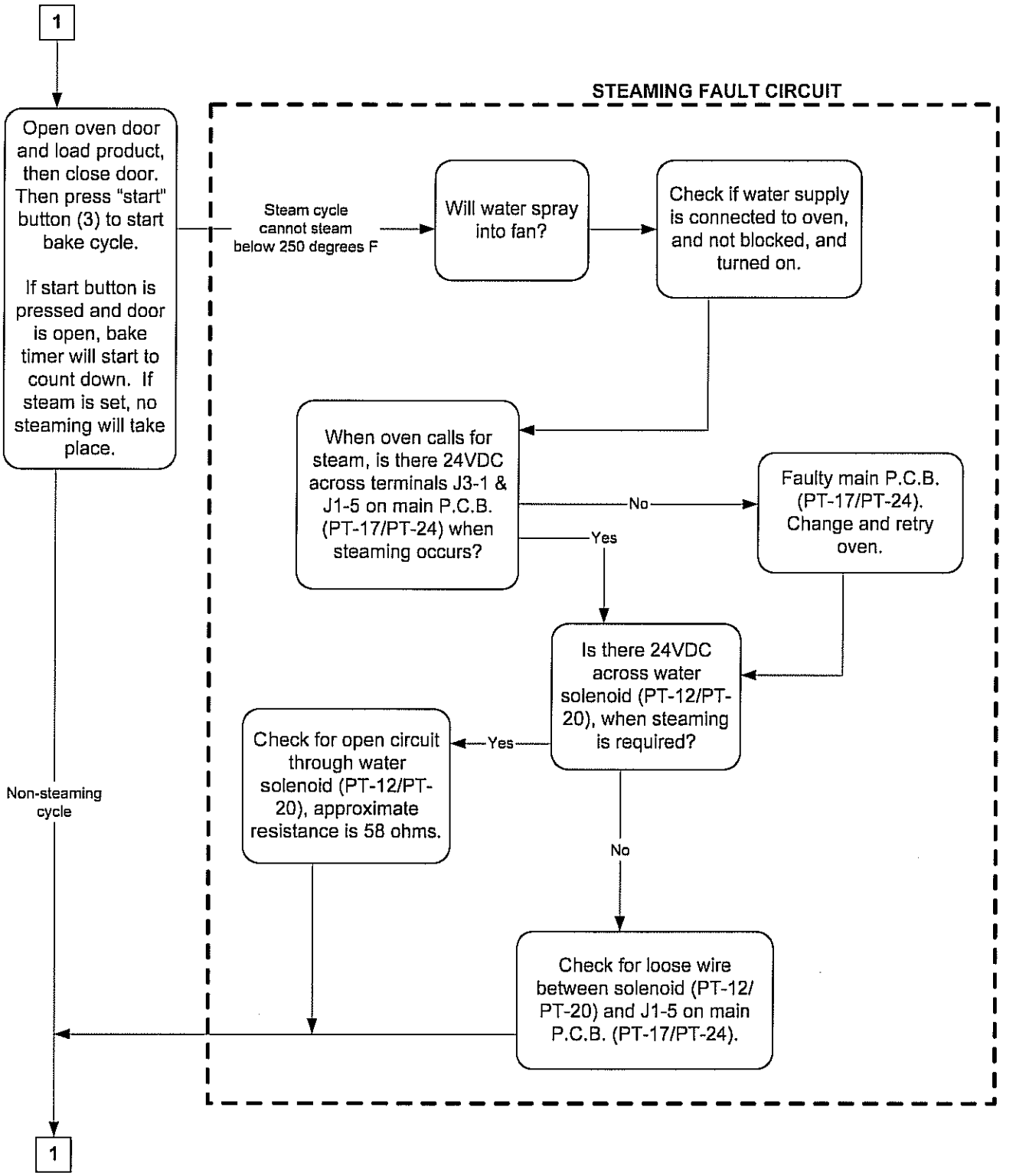


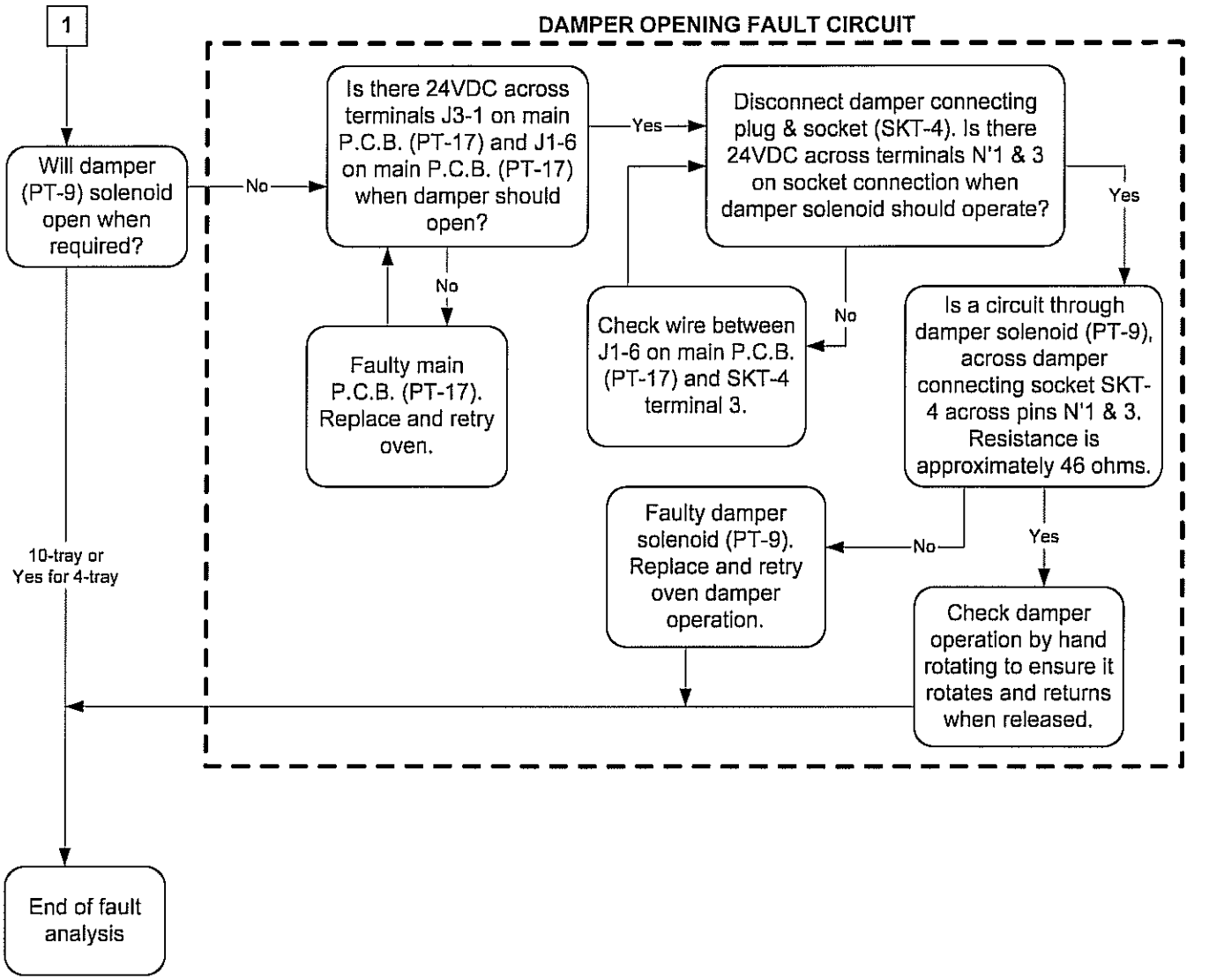
*Note: Part (PT) numbers are indicated in parentheses; 4-tray oven PT numbers are listed first, then 10-tray oven PT numbers.

4 TRAY & 10 TRAY CLASSIC LED FAULT ANALYSIS CHART



*Note: Part (PT) numbers are indicated in parentheses; 4-tray oven PT numbers are listed first, then 10-tray oven PT numbers.

4 TRAY & 10 TRAY CLASSIC LED FAULT ANALYSIS CHART



Diagrams 5

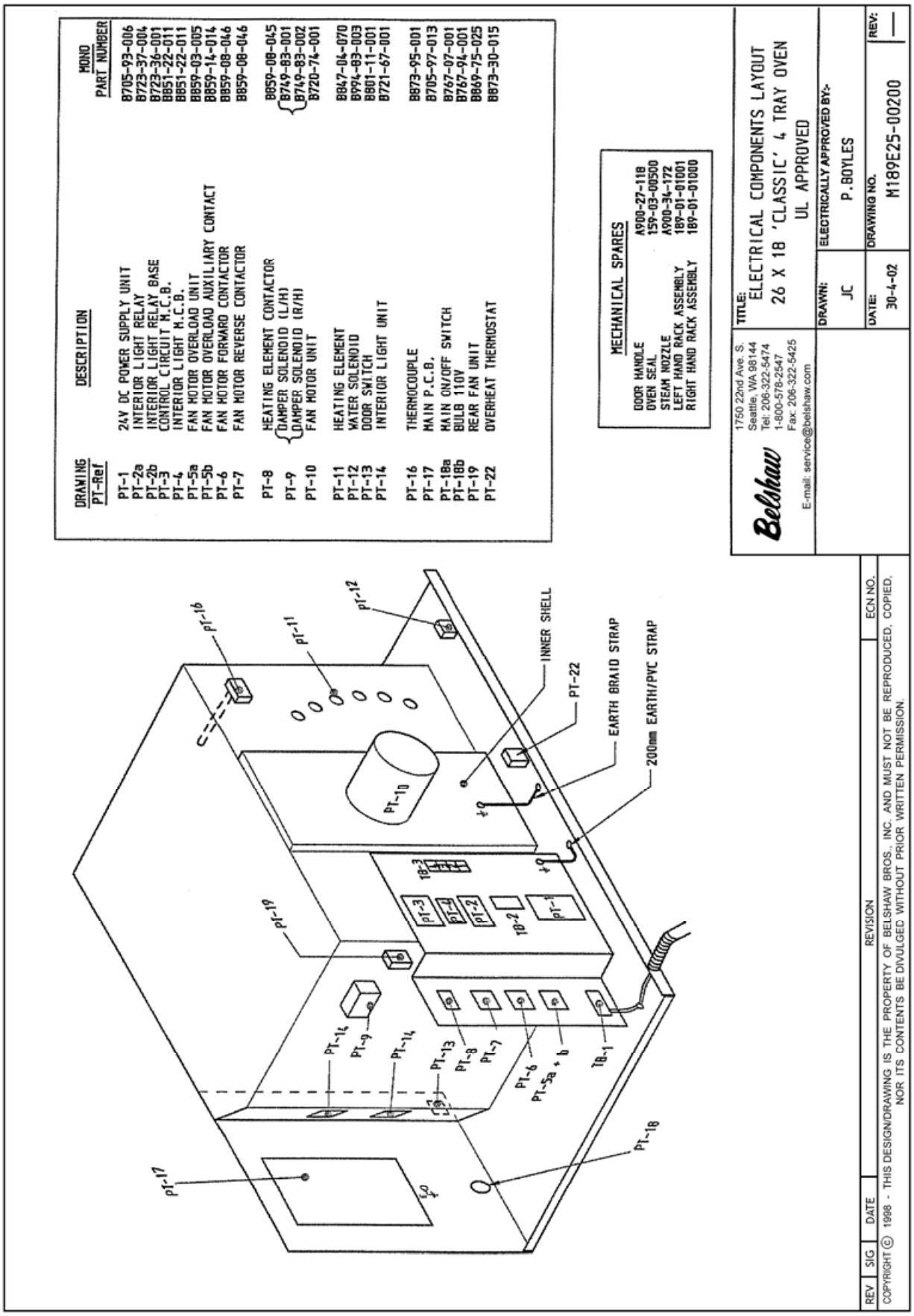
This section contains diagrams detailing the electrical components of the 4-tray and 10-tray Classic convection ovens.

4-tray Classic BX Oven (starts on page 32)

- Electrical Components, M189E25-00200
- Main PCB Connections, M158E25-50800
- PCB Inputs, M158E25-50500
- PCB Outputs, M189E25-00300
- Power Circuit Diagram, M189E25-00100
- Control Circuit & 24V DC Power Supply, M189E25-00400
- Fan Motor Connections & Heating Element Wiring, M189E25-00500

10-tray Classic BX Oven (starts on page 39)

- Electrical Components, M150E25-06000
- Main Control Panel Layout, M150E25-20200
- Main PCB Connections, M150E25-06300
- PCB Inputs, M150E25-06200
- PCB Outputs, M150E25-06100
- Interior Light & Power Supply Circuit, M150E25-20500
- Motor Power Circuit Diagram, M150E25-20600
- Heating Power Circuit Diagram, M150E25-20700
- Fan Motor Connections & Heating Element Wiring, M150E25-20300


DRAWING PT-Ref
DESCRIPTION
MDNO PART NUMBER
PT-1 24V DC POWER SUPPLY UNIT B705-93-006
PT-2a INTERIOR LIGHT RELAY B723-37-004
PT-2b INTERIOR LIGHT RELAY BASE B723-36-001
PT-3 CONTROL CIRCUIT M.C.B. B851-22-011
PT-4 INTERIOR LIGHT M.C.B. B851-22-011
PT-5a FAN MOTOR OVERLOAD UNIT B859-03-005
PT-5b FAN MOTOR OVERLOAD AUXILIARY CONTACT B859-14-014
PT-6 FAN MOTOR FORWARD CONTACTOR B859-08-046
PT-7 FAN MOTOR REVERSE CONTACTOR B859-08-046
PT-8 HEATING ELEMENT CONTACTOR B859-08-045
PT-9 DAMPER SOLENOID (L/H) B749-83-001
DAMPER SOLENOID (R/H) B749-83-002
PT-10 FAN MOTOR UNIT B720-74-001
PT-11 HEATING ELEMENT B847-04-070
PT-12 WATER SOLENOID B994-83-003
PT-13 DOOR SWITCH B801-11-001
PT-14 INTERIOR LIGHT UNIT B721-67-001
PT-16 THERMOCOUPLE B873-95-001
PT-17 MAIN P.C.B. B705-97-013
PT-18a MAIN ON/OFF SWITCH B767-07-001
PT-18b BULB 110V B767-94-001
PT-19 REAR FAN UNIT B869-75-025
PT-22 OVERHEAT THERMOSTAT B873-30-015
MECHANICAL SPARES
DOOR HANDLE A900-27-118
OVEN SEAL 159-03-00500
STEAM NOZZLE A900-34-172
LEFT HAND RACK ASSEMBLY 189-01-01001
RIGHT HAND RACK ASSEMBLY 189-01-01000
INNER SHELL
PT-22
EARTH BRAID STRAP
200mm EARTH/PVC STRAP
PT-16
PT-11
PT-12
PT-10
PT-19
PT-3
PT-4
PT-2
PT-1
TB-2
TB-3
PT-14
PT-9
PT-14
PT-13
PT-8
PT-7
PT-6
PT-5a + b
TB-1
PT-17
PT-18
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
ELECTRICAL COMPONENTS LAYOUT
26 X 18 'CLASSIC' 4 TRAY OVEN
UL APPROVED
DRAWN: JC
ELECTRICALLY APPROVED BY:- P.BOYLES
DATE: 30-4-02
DRAWING NO. M189E25-00200
REV: —
REV SIG DATE REVISION ECN NO.
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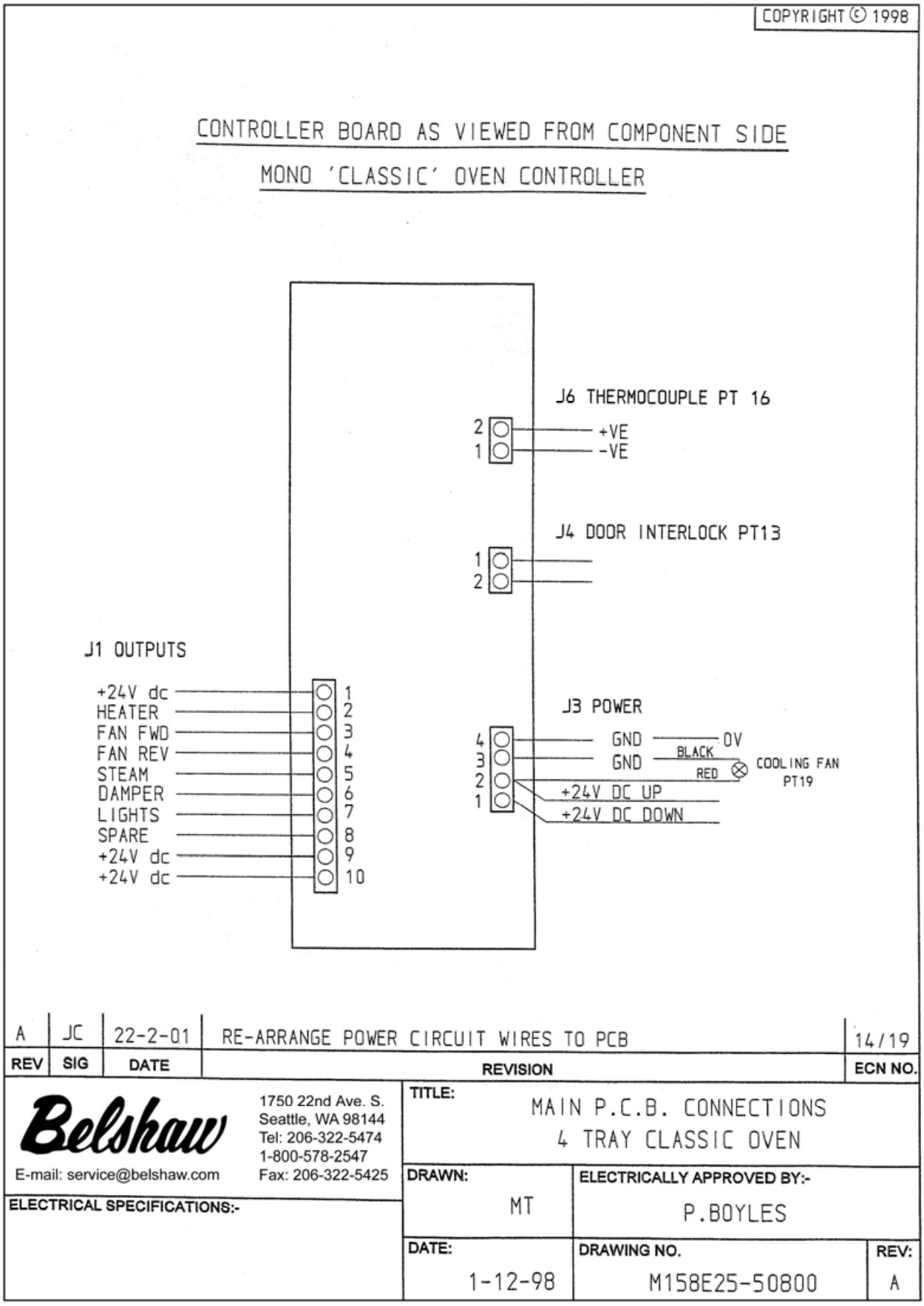
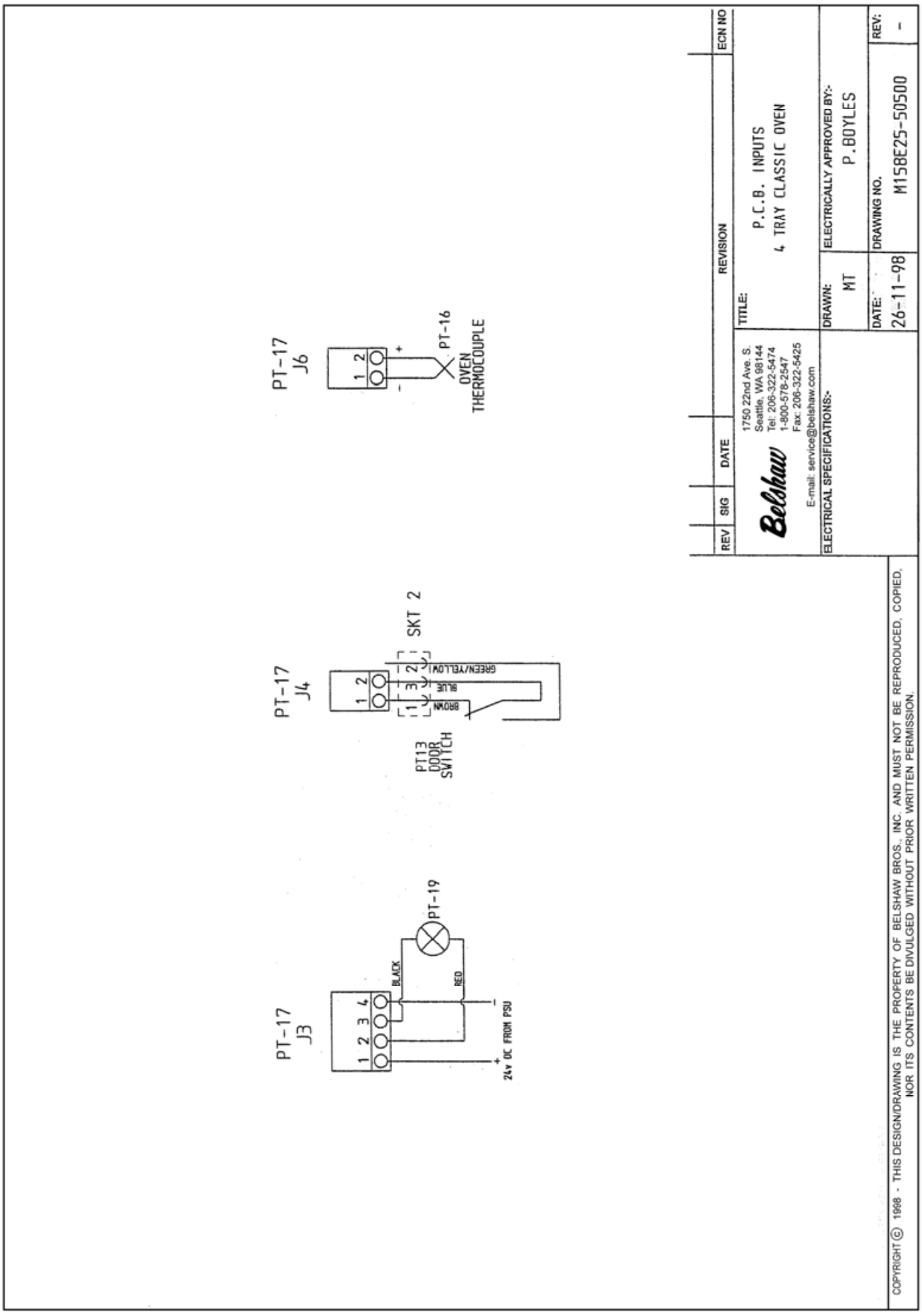

COPYRIGHT © 1998
CONTROLLER BOARD AS VIEWED FROM COMPONENT SIDE
MONO 'CLASSIC' OVEN CONTROLLER
J6 THERMOCOUPLE PT 16
2
1
+VE
-VE
J4 DOOR INTERLOCK PT13
1
2
J1 OUTPUTS
+24V dc 1
HEATER 2
FAN FWD 3
FAN REV 4
STEAM 5
DAMPER 6
LIGHTS 7
SPARE 8
+24V dc 9
+24V dc 10
J3 POWER
4
3
2
1
GND 0V
GND
BLACK
RED
COOLING FAN
PT19
+24V DC UP
+24V DC DOWN
A | JC | 22-2-01 | RE-ARRANGE POWER CIRCUIT WIRES TO PCB | 14/19
REV | SIG | DATE | REVISION | ECN NO.
Belshaw
E-mail: service@belshaw.com
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
ELECTRICAL SPECIFICATIONS:-
TITLE:
MAIN P.C.B. CONNECTIONS
4 TRAY CLASSIC OVEN
DRAWN:
MT
ELECTRICALLY APPROVED BY:-
P.BOYLES
DATE:
1-12-98
DRAWING NO.
M158E25-50800
REV:
A


PT-17
J6
1 2
PT-16
OVEN
THERMOCOUPLE
PT-17
J4
1 2
SKT 2
1 2 3
GREEN/YELLOW
BLUE
BROWN
PT13
DOOR
SWITCH
PT-17
J3
1 2 3 4
BLACK
RED
PT-19
24v DC FROM PSU
REV
SIG
DATE
REVISION
ECN NO
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
P.C.B. INPUTS
4 TRAY CLASSIC OVEN
ELECTRICAL SPECIFICATIONS:-
DRAWN:
MT
ELECTRICALLY APPROVED BY:-
P.BOYLES
DATE:
26-11-98
DRAWING NO.
M15BE25-50500
REV:
-
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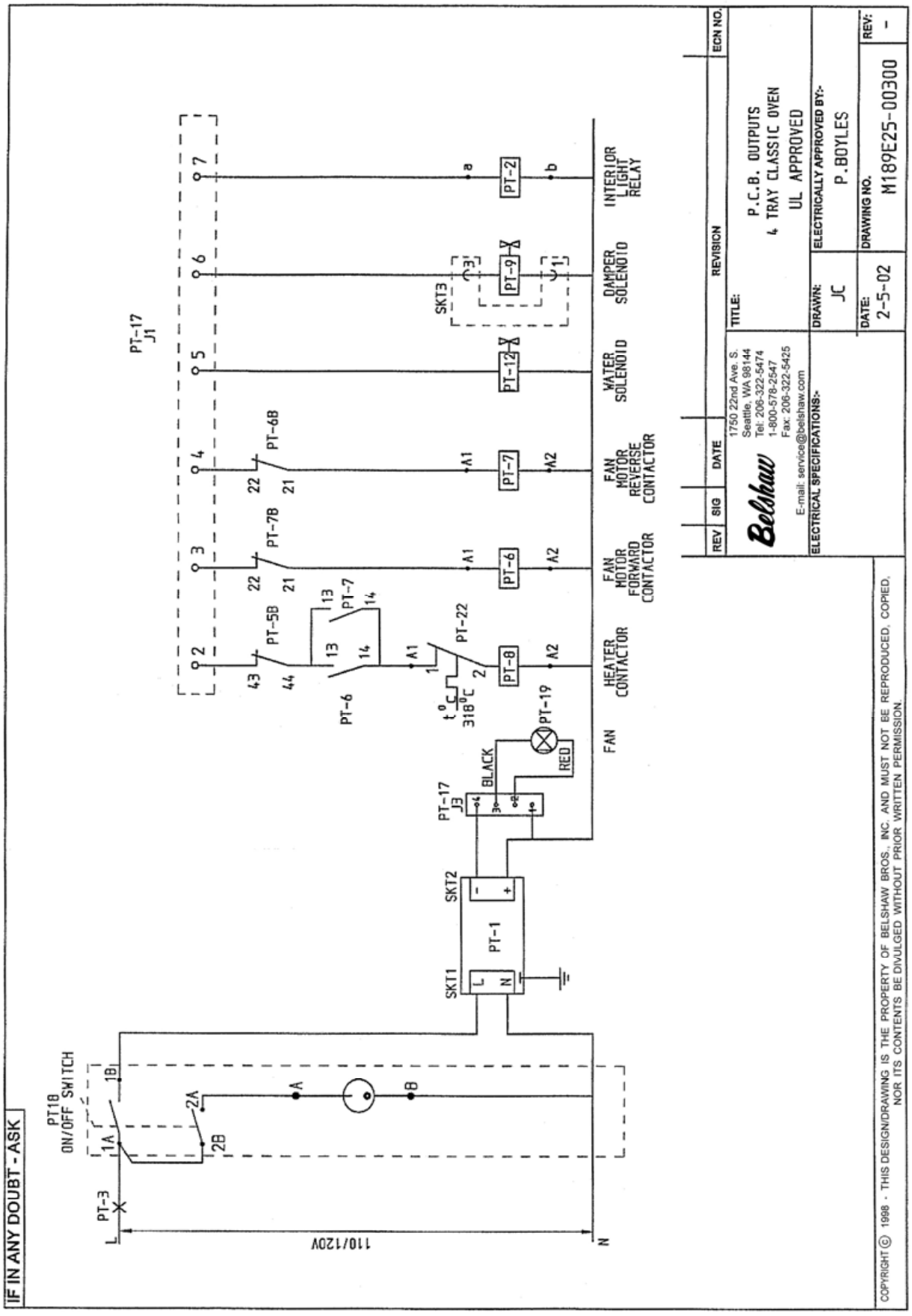
IF IN ANY DOUBT - ASK
PT18
ON/OFF SWITCH
PT-3
110/120V
PT-1
SKT1
SKT2
PT-17
J3
BLACK
RED
PT-19
FAN
HEATER CONTACTOR
FAN MOTOR FORWARD CONTACTOR
FAN MOTOR REVERSE CONTACTOR
WATER SOLENOID
DAMPER SOLENOID
INTERIOR LIGHT RELAY
PT-17
J1
PT-5B
PT-6B
PT-7B
PT-6
PT-7
PT-22
PT-8
PT-6
PT-7
PT-12
PT-9
PT-2
SKT3
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
ELECTRICAL SPECIFICATIONS:-
TITLE:
P.C.B. OUTPUTS
4 TRAY CLASSIC OVEN
UL APPROVED
DRAWN:
JC
ELECTRICALLY APPROVED BY:-
P.BOYLES
DATE:
2-5-02
DRAWING NO.
M189E25-00300
REV:
-
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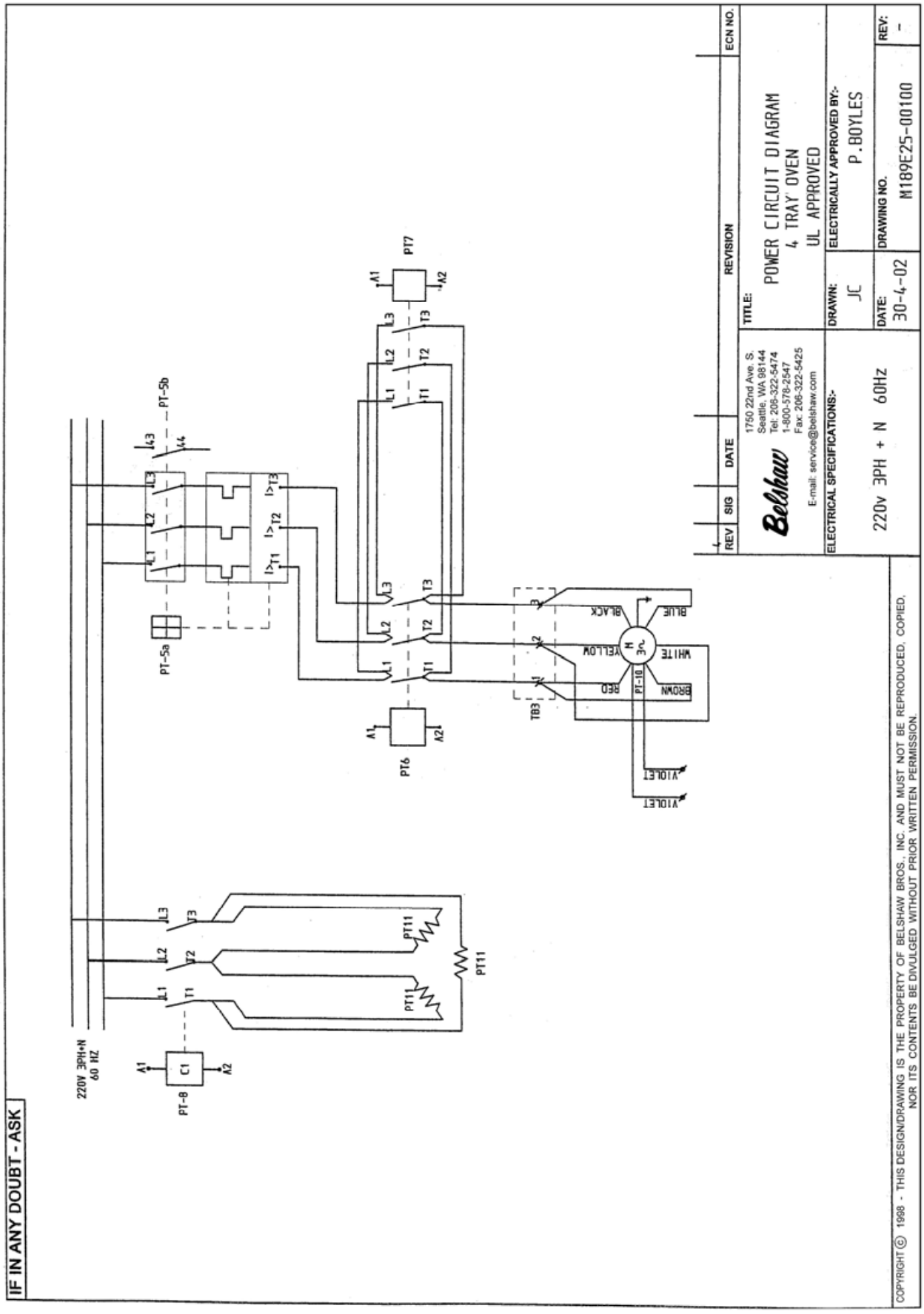
IF IN ANY DOUBT - ASK
220V 3PH+N 60 HZ
PT-8
PT-5a
PT-5b
PT6
PT7
PT11
TB3
PT-10
BLUE
BLACK
WHITE
YELLOW
BROWN
RED
VIOLET
REVISION
REV
SIG
DATE
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
POWER CIRCUIT DIAGRAM
4 TRAY OVEN
UL APPROVED
ELECTRICAL SPECIFICATIONS:-
220v 3PH + N 60Hz
DRAWN:
JC
DATE:
30-4-02
ELECTRICALLY APPROVED BY:-
P.BOYLES
DRAWING NO.
M189E25-00100
REV:
-
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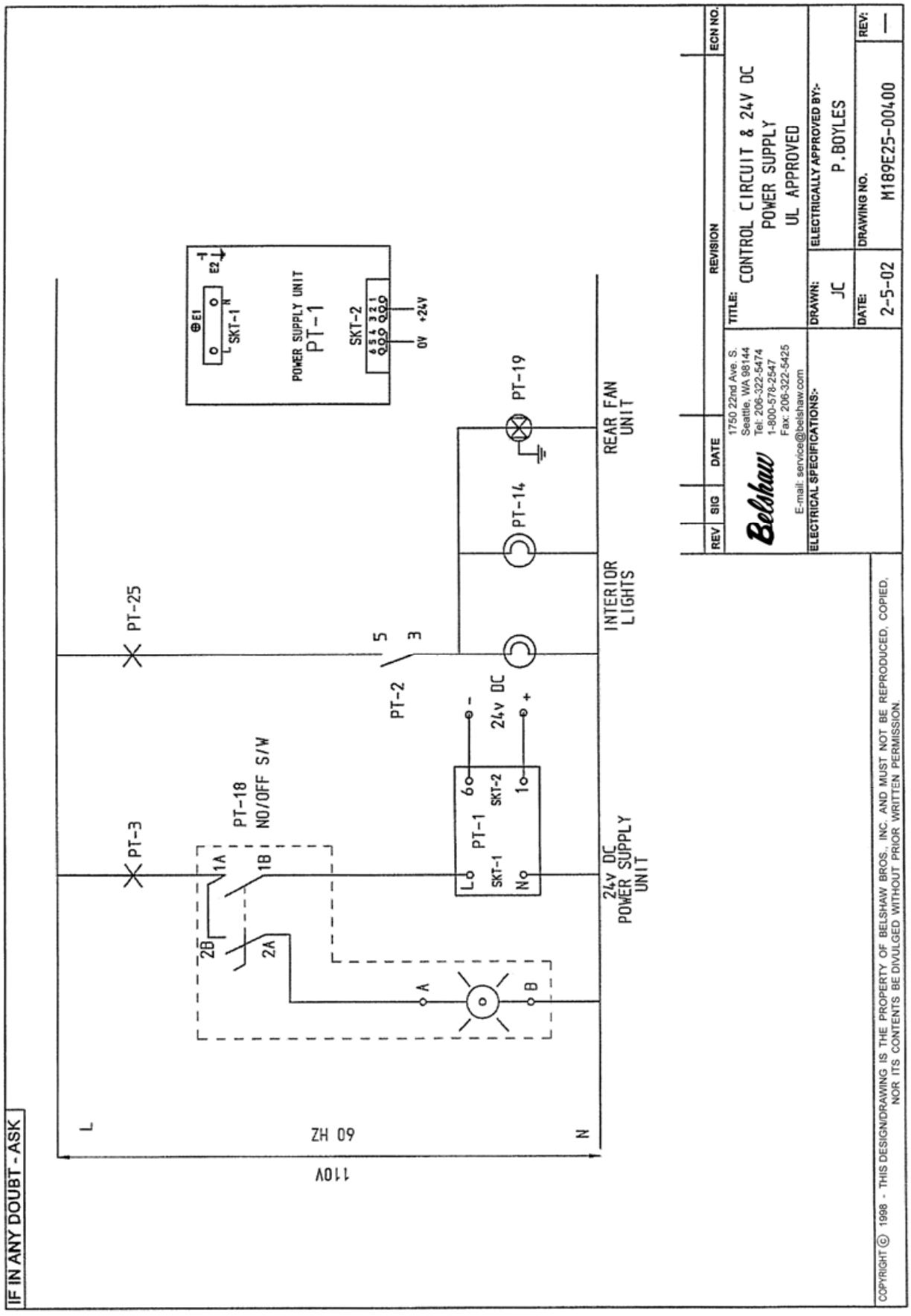
IF IN ANY DOUBT - ASK
L
N
110V
60 HZ
PT-25
PT-3
PT-18
NO/OFF S/W
1A
1B
2B
2A
A
B
PT-2
5
3
PT-1
SKT-1
SKT-2
L
N
6
1
24v DC
24v DC
POWER SUPPLY
UNIT
INTERIOR
LIGHTS
PT-14
PT-19
REAR FAN
UNIT
POWER SUPPLY UNIT
PT-1
SKT-1
SKT-2
0V +24V
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
CONTROL CIRCUIT & 24V DC
POWER SUPPLY
UL APPROVED
ELECTRICAL SPECIFICATIONS:-
DRAWN:
JC
ELECTRICALLY APPROVED BY:-
P.BOYLES
DATE:
2-5-02
DRAWING NO.
M189E25-00400
REV:
—
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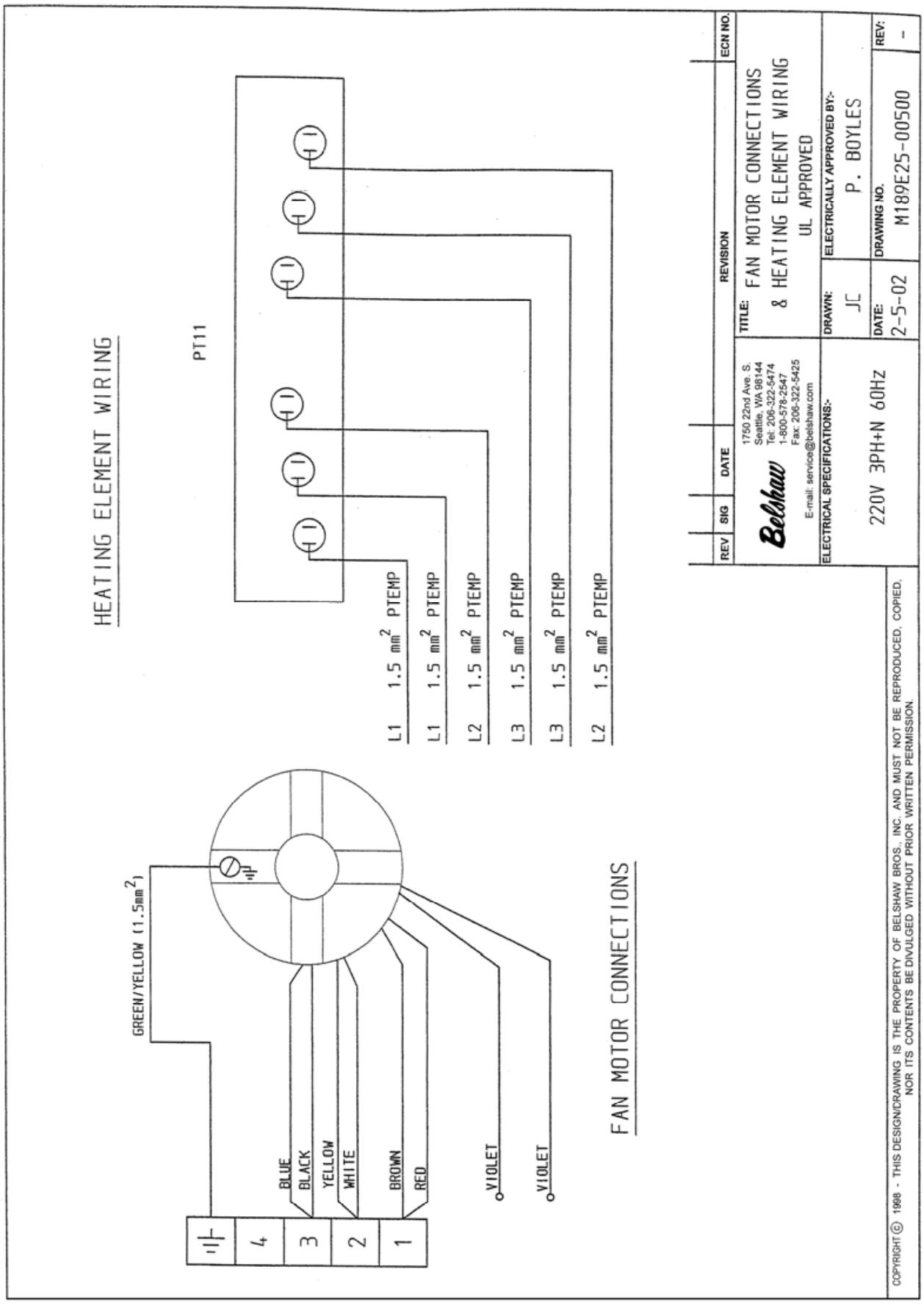
HEATING ELEMENT WIRING
PT11
L1 1.5 mm² PTEMP
L1 1.5 mm² PTEMP
L2 1.5 mm² PTEMP
L3 1.5 mm² PTEMP
L3 1.5 mm² PTEMP
L2 1.5 mm² PTEMP
FAN MOTOR CONNECTIONS
GREEN/YELLOW (1.5mm²)
BLUE
BLACK
YELLOW
WHITE
BROWN
RED
VIOLET
VIOLET
4
3
2
1
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE: FAN MOTOR CONNECTIONS & HEATING ELEMENT WIRING UL APPROVED
ELECTRICAL SPECIFICATIONS:-
220V 3PH+N 60Hz
DRAWN: JC
DATE: 2-5-02
ELECTRICALLY APPROVED BY:- P. BOYLES
DRAWING NO. M189E25-00500
REV: -
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IF IN ANY DOUBT - ASK
DRAWING PT-Ref
DESCRIPTION
MONO PART NUMBER
PT-1 INTERIOR LIGHT M.C.B. B851-22-011
PT-2 CONTROL CIRCUIT M.C.B. B851-22-011
PT-4a FAN MOTOR OVERLOAD UNIT N'1 (TOP) B859-03-005
PT-4b FAN MOTOR OVERLOAD N'1 AUXILIARY CONTACT B859-14-011
PT-5a FAN MOTOR OVERLOAD UNIT N'2 (BOTTOM) B859-03-005
PT-5b FAN MOTOR OVERLOAD N'2 AUXILIARY CONTACT B859-14-014
PT-8a INTERIOR LIGHT RELAY B723-37-004
PT-8b INTERIOR LIGHT RELAY BASE B723-36-001
PT-10a FAN MOTOR CONTACTOR N'1-FORWARD (TOP MOTOR) B859-08-046
PT-10b FAN MOTOR CONTACTOR N'1-REVERSE (TOP MOTOR) B859-08-046
PT-10c FAN MOTOR N'1-ELECT/MECH INTERLOCK B859-18-004
PT-11a FAN MOTOR CONTACTOR N'2-FORWARD (BTM MOTOR) B859-08-046
PT-11b FAN MOTOR CONTACTOR N'2-REVERSE (BTM MOTOR) B859-08-046
PT-11c FAN MOTOR N'2-ELECT/MECH INTERLOCK B859-18-004
PT-14 24V DC POWER SUPPLY UNIT B705-93-006
PT-15 TOP HEATING ELEMENT CONTACTOR B801-08-023
PT-16 BOTTOM HEATING ELEMENT CONTACTOR B801-08-023
PT-17 DAMPER SOLENOID (L/H) B749-83-001
DAMPER SOLENOID (R/H) B749-83-002
PT-18 FAN MOTOR UNIT N'1 (TOP MOTOR) B720-74-001
PT-19 FAN MOTOR UNIT N'1 (BOTTOM MOTOR) B720-74-001
PT-20 WATER SOLENOID B994-83-003
PT-21 OVERHEAT THERMOSTAT N'1 B873-30-014
PT-23 OVEN THERMOCOUPLE B873-95-001
PT-24a MAIN DISPLAY PCB B705-97-013
PT-24b
PT-25 COOLING FAN B842-75-002
PT-26a MAIN OFF/ON SWITCH B836-07-003
PT-26b 110v BULB B767-94-001
PT-27 DOOR SWITCH B827-11-001
PT-28 INTERIOR LIGHT UNIT B721-67-001
PT-30 HEATING ELEMENT UNIT N'1 (TOP) B847-04-076
PT-31 HEATING ELEMENT UNIT N'2 (BOTTOM) B847-04-076
PT-34 REAR FAN UNIT B869-75-025
PT 23
PT 30
PT 18
PT 19
PT 20
PT 17
PT 28
PT 27
PT 34
PT 21
PT 31
PT 21
PT 26
PT 24a
PT 24b
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
ELECTRICAL COMPONENTS LAYOUT
CLASSIC 10 TRAY
(UL APPROVED)
ELECTRICAL SPECIFICATIONS:-
DRAWN:
JC
ELECTRICALLY APPROVED BY:-
P.BOYLES
DATE:
8/7/02
DRAWING NO.
M150E25-06000
REV:
—
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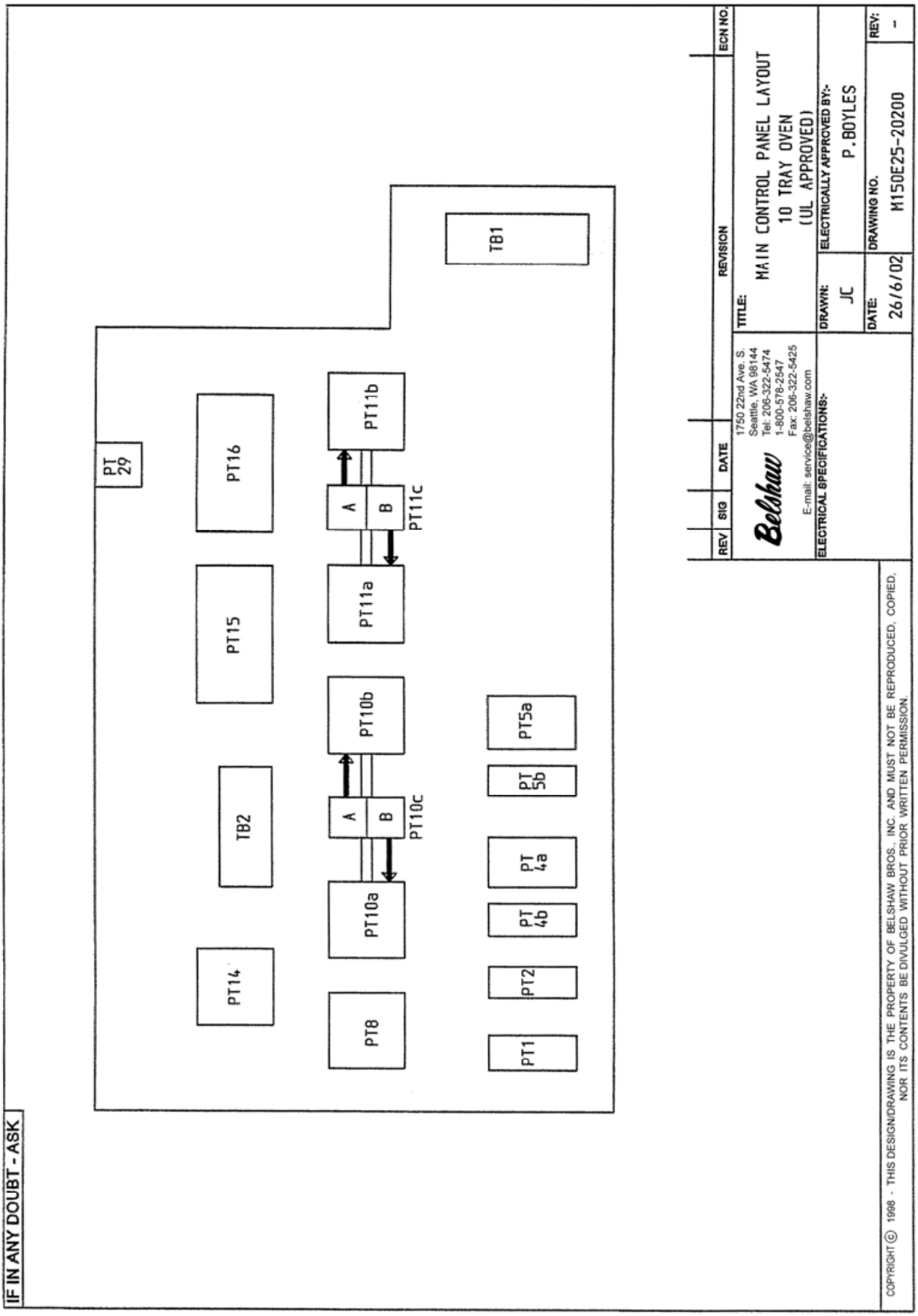
IF IN ANY DOUBT - ASK
PT 29
PT16
PT15
PT14
TB2
PT8
PT10a
PT10b
PT10c
PT11a
PT11b
PT11c
A
B
TB1
PT5a
PT 5b
PT 4a
PT 4b
PT2
PT1
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
MAIN CONTROL PANEL LAYOUT
10 TRAY OVEN
(UL APPROVED)
ELECTRICAL SPECIFICATIONS:-
DRAWN:
JC
ELECTRICALLY APPROVED BY:-
P.BOYLES
DATE:
26/6/02
DRAWING NO.
M150E25-20200
REV:
-
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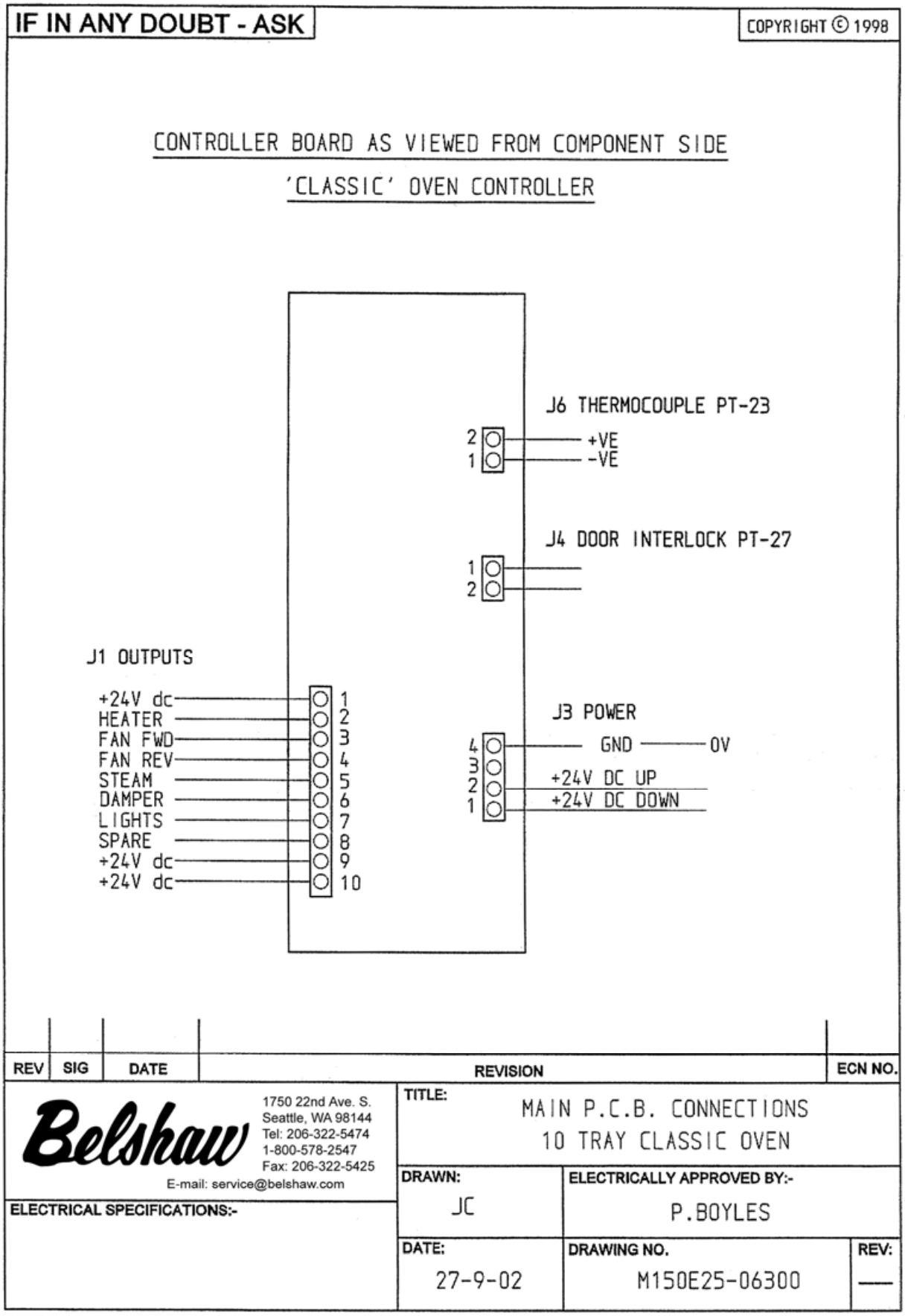
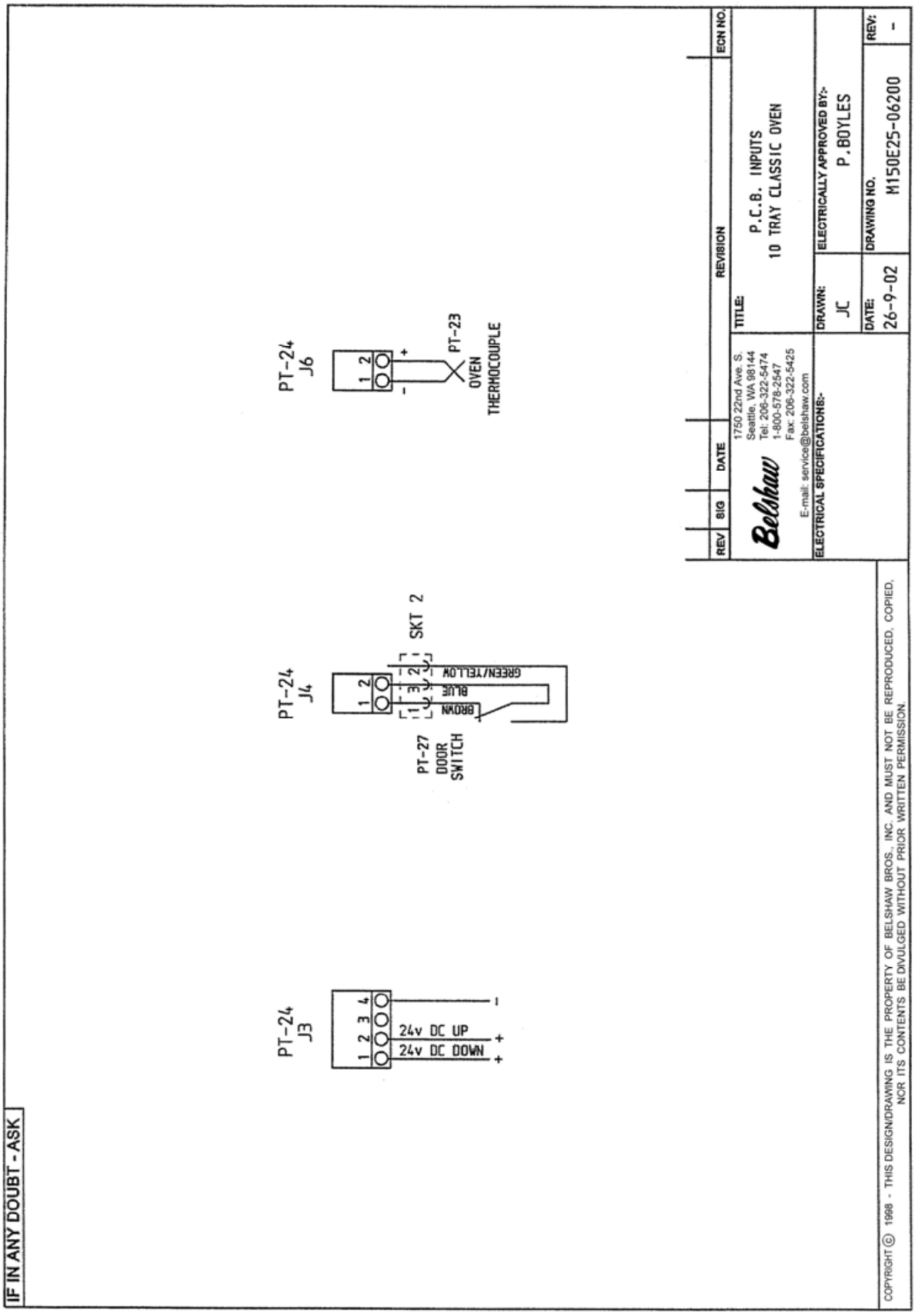

IF IN ANY DOUBT - ASK
COPYRIGHT © 1998
CONTROLLER BOARD AS VIEWED FROM COMPONENT SIDE
'CLASSIC' OVEN CONTROLLER
J6 THERMOCOUPLE PT-23
2
1
+VE
-VE
J4 DOOR INTERLOCK PT-27
1
2
J1 OUTPUTS
+24V dc 1
HEATER 2
FAN FWD 3
FAN REV 4
STEAM 5
DAMPER 6
LIGHTS 7
SPARE 8
+24V dc 9
+24V dc 10
J3 POWER
4
3
2
1
GND
0V
+24V DC UP
+24V DC DOWN
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
MAIN P.C.B. CONNECTIONS
10 TRAY CLASSIC OVEN
ELECTRICAL SPECIFICATIONS:-
DRAWN:
JC
ELECTRICALLY APPROVED BY:-
P.BOYLES
DATE:
27-9-02
DRAWING NO.
M150E25-06300
REV:
—


IF IN ANY DOUBT - ASK
PT-24
J3
1 2 3 4
24v DC UP
24v DC DOWN
PT-24
J4
1 2
SKT 2
1 2 3
BROWN
BLUE
GREEN/YELLOW
PT-27
DOOR
SWITCH
PT-24
J6
1 2
PT-23
OVEN
THERMOCOUPLE
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
P.C.B. INPUTS
10 TRAY CLASSIC OVEN
ELECTRICAL SPECIFICATIONS:-
DRAWN:
JC
DATE:
26-9-02
ELECTRICALLY APPROVED BY:-
P.BOYLES
DRAWING NO.
M150E25-06200
REV:
-
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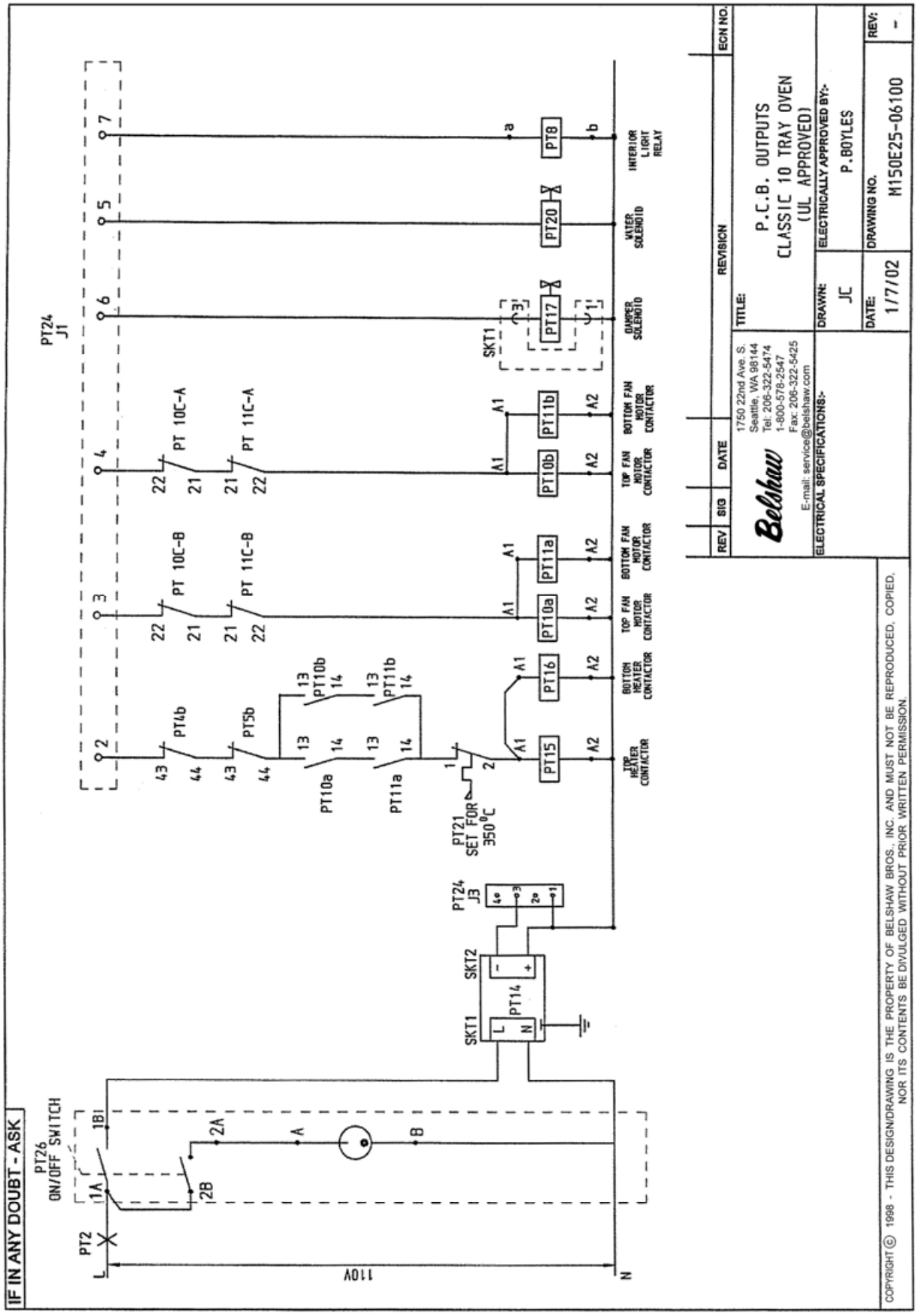
IF IN ANY DOUBT - ASK
PT26 ON/OFF SWITCH
PT2
110V
PT24 J1
PT 10C-A
PT 11C-A
PT 10C-B
PT 11C-B
PT4b
PT5b
PT10a
PT11a
PT21 SET FOR 350°C
PT24 J3
SKT1
SKT2
PT14
TOP HEATER CONTACTOR
BOTTOM HEATER CONTACTOR
TOP FAN MOTOR CONTACTOR
BOTTOM FAN MOTOR CONTACTOR
DAMPER SOLENOID
VALVE SOLENOID
INTERIOR LIGHT RELAY
REVISION
ECN NO.
REV
SIG
DATE
TITLE:
P.C.B. OUTPUTS
CLASSIC 10 TRAY OVEN
(UL APPROVED)
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
ELECTRICAL SPECIFICATIONS:-
DRAWN:
JC
ELECTRICALLY APPROVED BY:-
P.BOYLES
DATE:
1/7/02
DRAWING NO.
M150E25-06100
REV:
-
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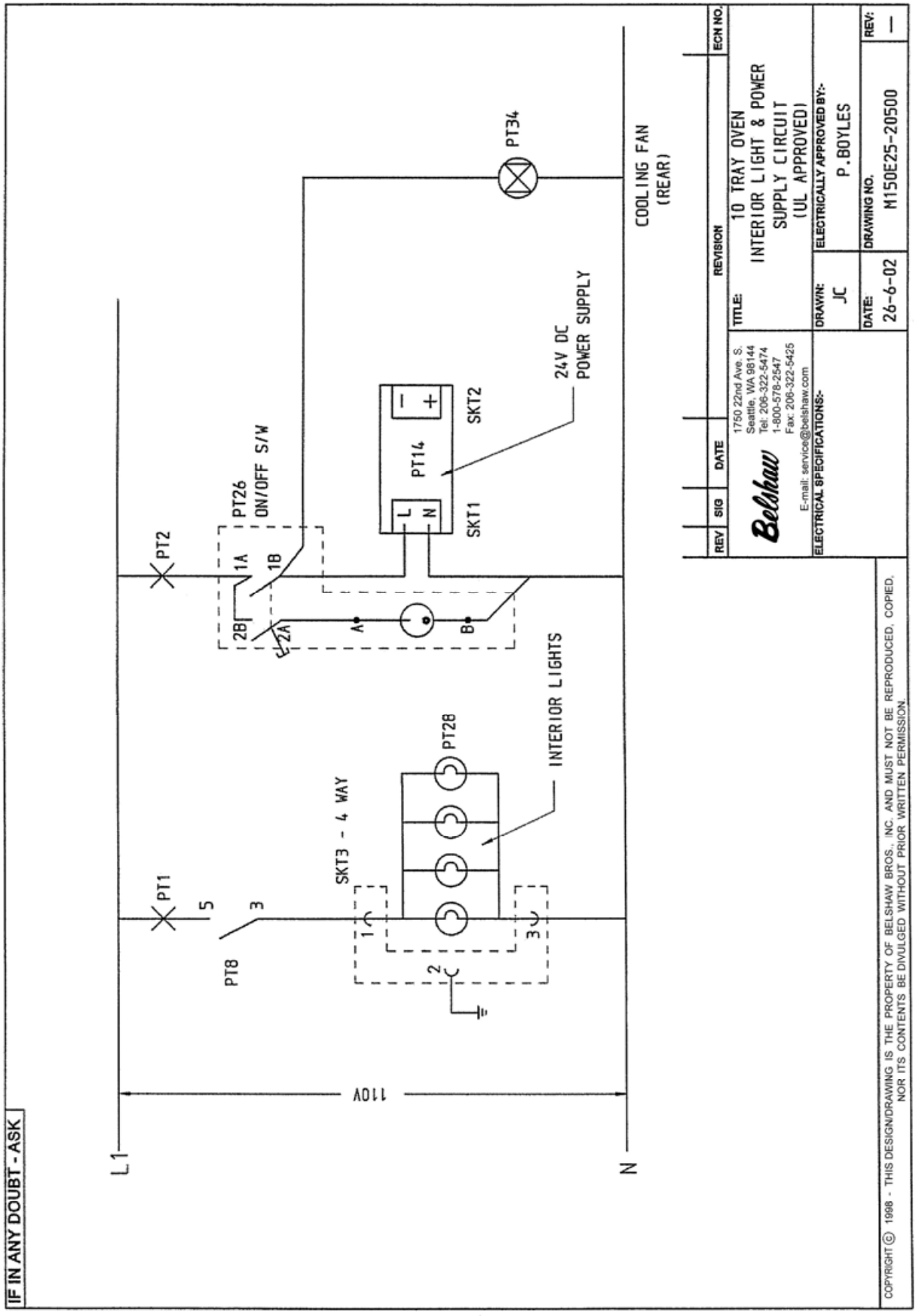
IF IN ANY DOUBT - ASK
L 1
N
110V
PT1
5
3
PT8
SKT3 - 4 WAY
1
2
3
PT28
INTERIOR LIGHTS
PT2
PT26
ON/OFF S/W
1A
1B
2B
2A
A
B
PT14
L
N
SKT1
SKT2
24V DC
POWER SUPPLY
PT34
COOLING FAN
(REAR)
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
10 TRAY OVEN
INTERIOR LIGHT & POWER
SUPPLY CIRCUIT
(UL APPROVED)
ELECTRICAL SPECIFICATIONS:-
DRAWN:
JC
DATE:
26-6-02
ELECTRICALLY APPROVED BY:-
P.BOYLES
DRAWING NO.
M150E25-20500
REV:
—
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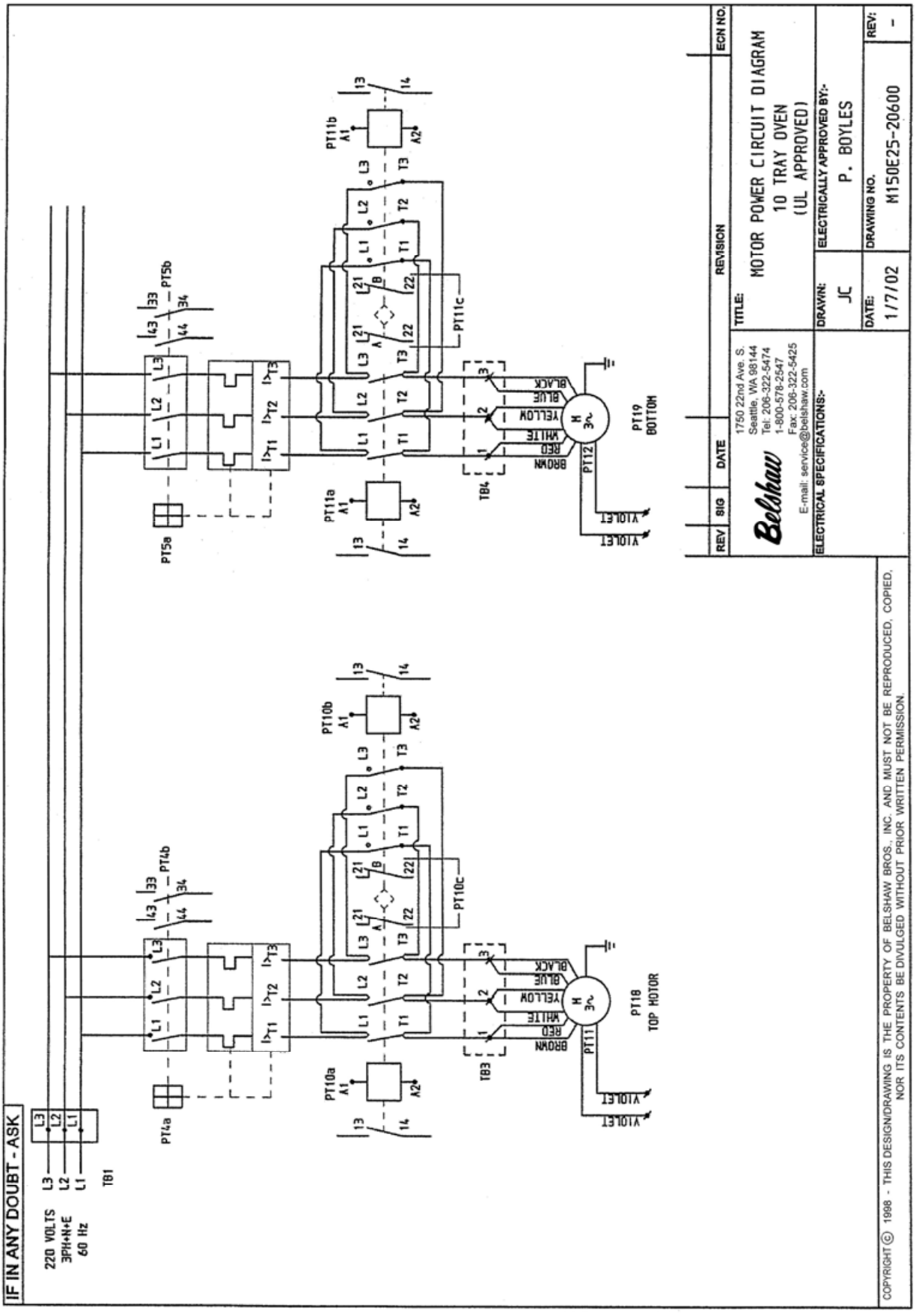
IF IN ANY DOUBT - ASK
220 VOLTS
3PH+N+E
60 Hz
L3
L2
L1
TB1
PT4a
PT4b
PT5a
PT5b
PT10a
PT10b
PT10c
PT11a
PT11b
PT11c
TB3
TB4
PT18
TOP MOTOR
PT19
BOTTOM
PT11
PT12
BROWN
RED
WHITE
YELLOW
BLUE
BLACK
VIOLET
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
MOTOR POWER CIRCUIT DIAGRAM
10 TRAY OVEN
(UL APPROVED)
ELECTRICAL SPECIFICATIONS:-
DRAWN:
JC
DATE:
1/7/02
ELECTRICALLY APPROVED BY:-
P. BOYLES
DRAWING NO.
M150E25-20600
REV:
-
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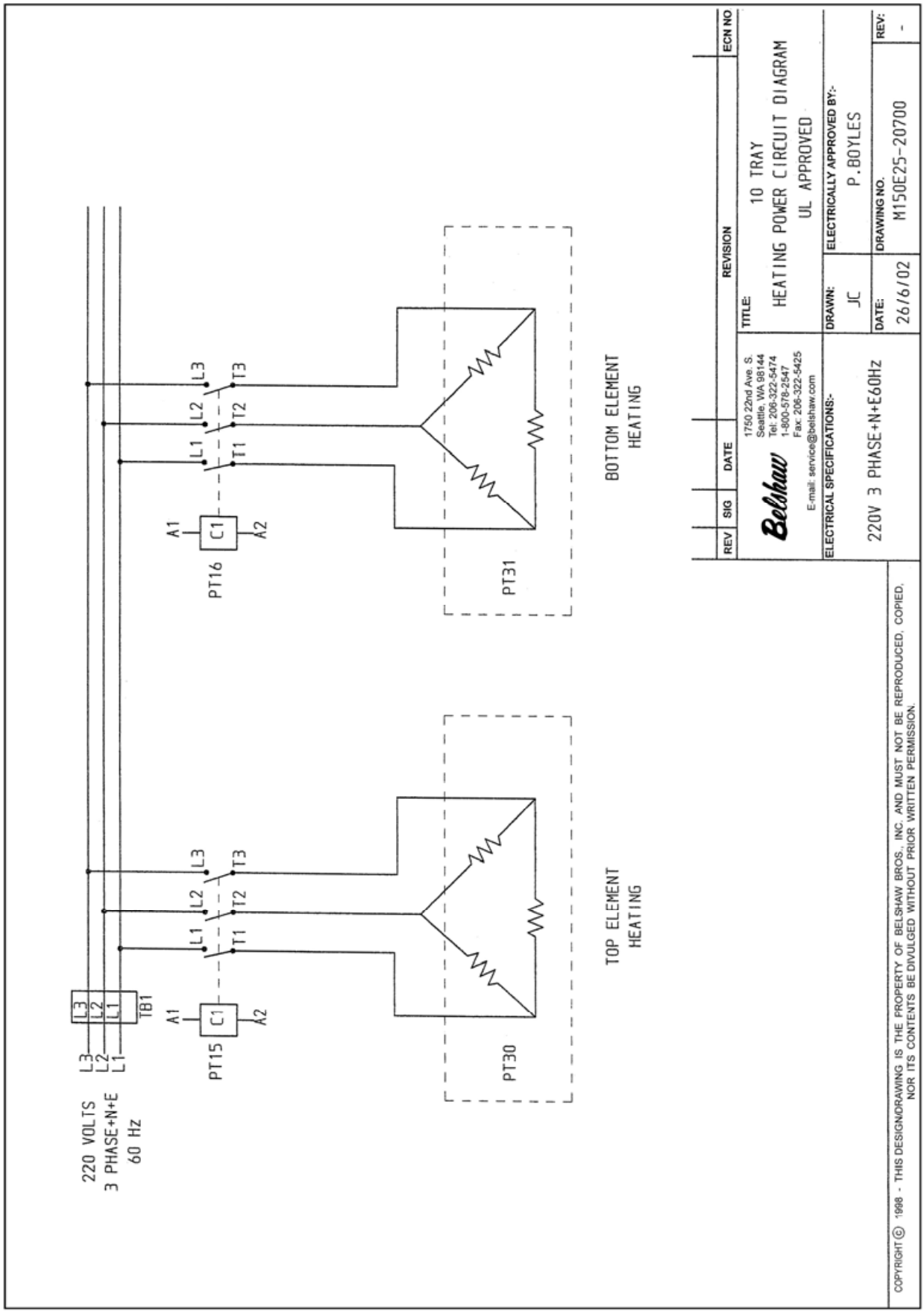
220 VOLTS
3 PHASE+N+E
60 Hz
L3
L2
L1
TB1
A1
C1
A2
PT15
PT16
PT30
PT31
L1
L2
L3
T1
T2
T3
TOP ELEMENT
HEATING
BOTTOM ELEMENT
HEATING
REV
SIG
DATE
REVISION
ECN NO
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
10 TRAY
HEATING POWER CIRCUIT DIAGRAM
UL APPROVED
ELECTRICAL SPECIFICATIONS:-
220V 3 PHASE+N+E60Hz
DRAWN:
JC
DATE:
26/6/02
ELECTRICALLY APPROVED BY:-
P.BOYLES
DRAWING NO.
M150E25-20700
REV:
-
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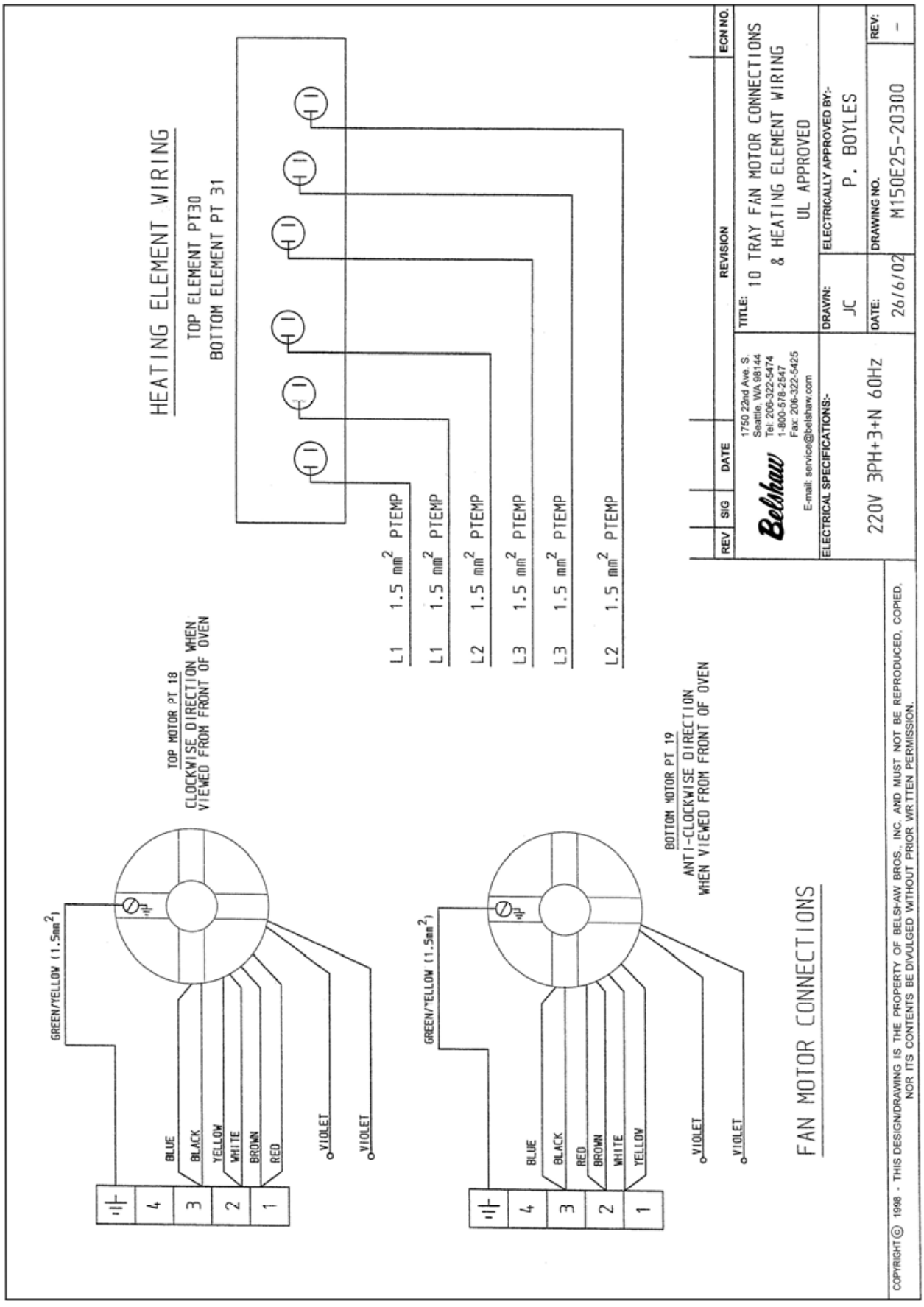
HEATING ELEMENT WIRING
TOP ELEMENT PT30
BOTTOM ELEMENT PT 31
L1 1.5 mm² PTEMP
L1 1.5 mm² PTEMP
L2 1.5 mm² PTEMP
L3 1.5 mm² PTEMP
L3 1.5 mm² PTEMP
L2 1.5 mm² PTEMP
TOP MOTOR PT 18
CLOCKWISE DIRECTION WHEN VIEWED FROM FRONT OF OVEN
GREEN/YELLOW (1.5mm²)
BLUE
BLACK
YELLOW
WHITE
BROWN
RED
VIOLET
VIOLET
4
3
2
1
BOTTOM MOTOR PT 19
ANTI-CLOCKWISE DIRECTION WHEN VIEWED FROM FRONT OF OVEN
GREEN/YELLOW (1.5mm²)
BLUE
BLACK
RED
BROWN
WHITE
YELLOW
VIOLET
VIOLET
4
3
2
1
FAN MOTOR CONNECTIONS
REV
SIG
DATE
REVISION
ECN NO.
Belshaw
1750 22nd Ave. S.
Seattle, WA 98144
Tel: 206-322-5474
1-800-578-2547
Fax: 206-322-5425
E-mail: service@belshaw.com
TITLE:
10 TRAY FAN MOTOR CONNECTIONS
& HEATING ELEMENT WIRING
UL APPROVED
ELECTRICAL SPECIFICATIONS:-
220V 3PH+3+N 60Hz
DRAWN:
JC
ELECTRICALLY APPROVED BY:-
P. BOYLES
DATE:
26/6/02
DRAWING NO.
M150E25-20300
REV:
-
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